AMERICAN GAS ASSOCIATION

Monthly

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Pg 3-5
Pg 6, 7-46
for MR

RDF

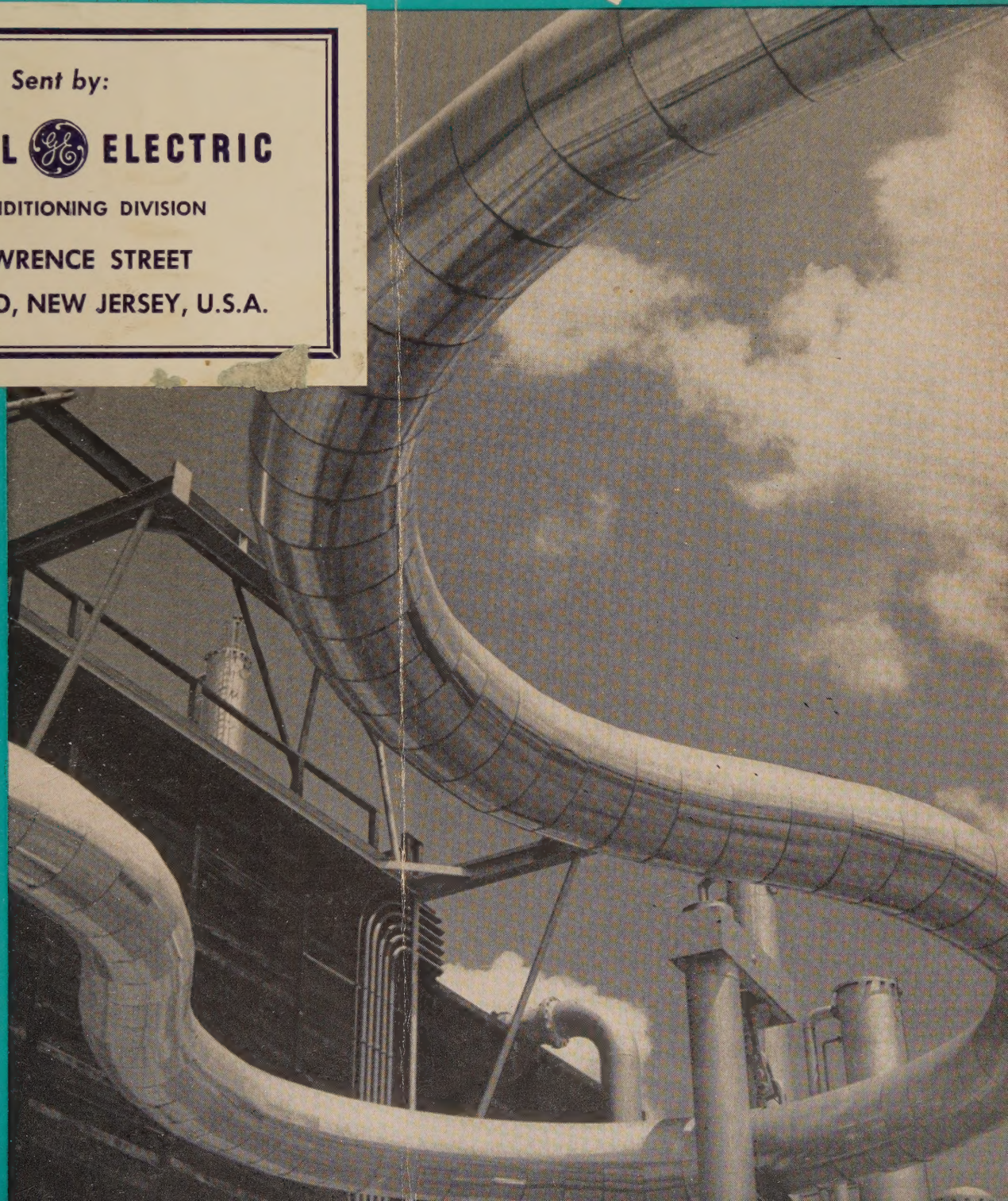
Sent by:

GENERAL ELECTRIC

AIR CONDITIONING DIVISION

5 LAWRENCE STREET

BLOOMFIELD, NEW JERSEY, U.S.A.



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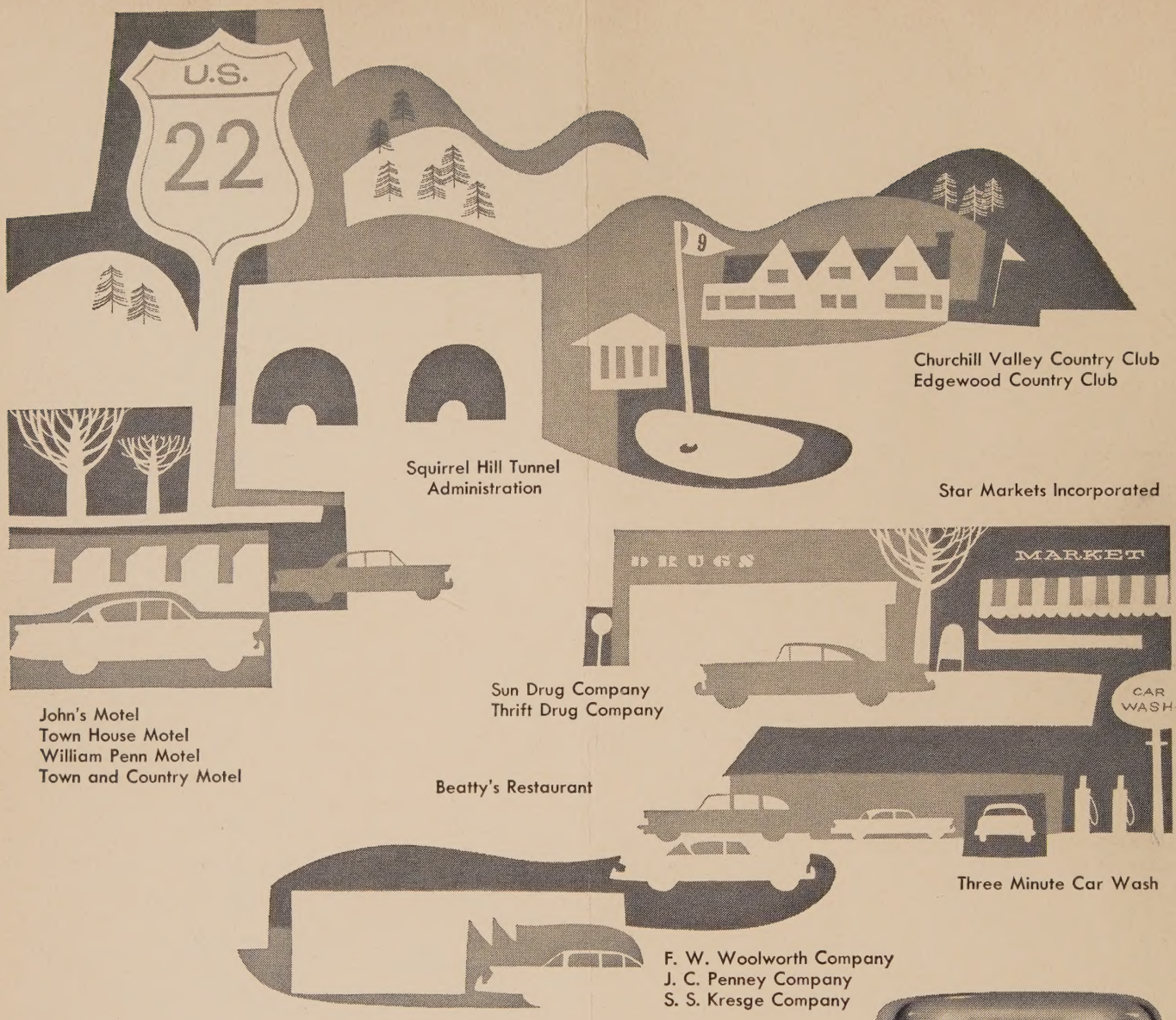
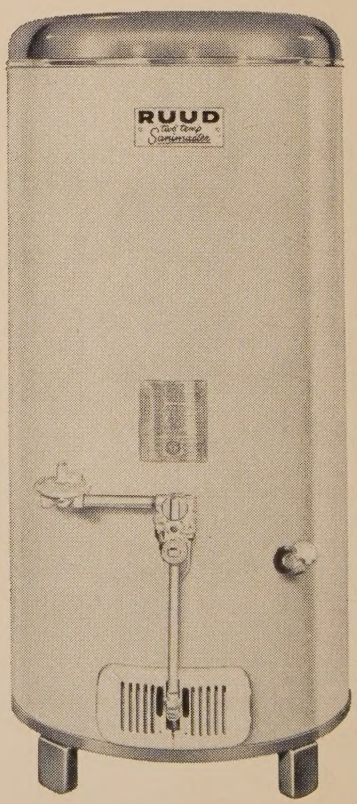


Hot Water Pays, All Ways...Thanks to *GAS*

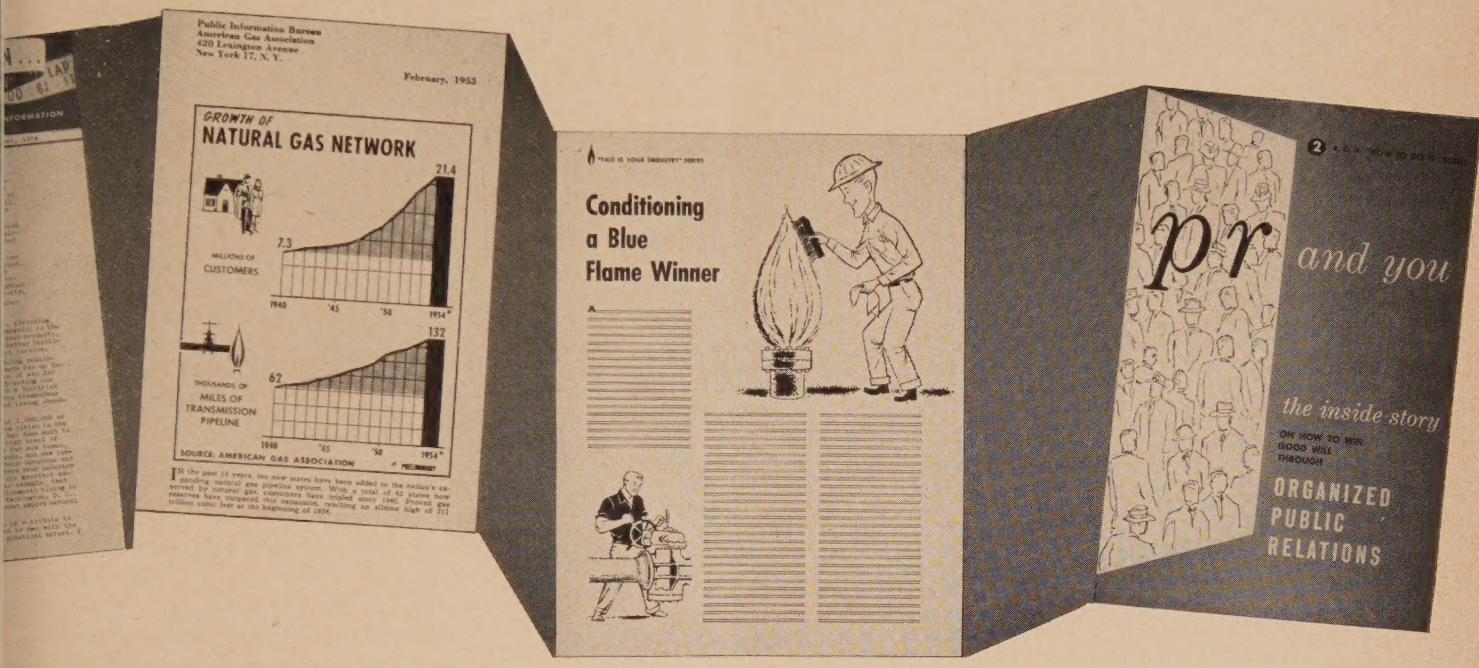
On a short stretch of Route 22 east of Pittsburgh, you'll find fifteen different commercial establishments using Gas-fired Ruud water heaters. In each case, plenty of hot water is needed, whether it's for dishwashing, coffee making and other food preparation uses, or for showers, laundries, car washing or general cleaning. Only Gas gives the vast amount of hot water they need so fast, at so little cost. A Gas water heater of the proper size, backed by the established reputation of its manufacturer, gives commercial and institutional operations all the hot water they need for every purpose.

There are complete lines of dependable Gas water heaters including economical, efficient boosters, for every large volume water heating requirement. For specifications, data and literature, call your Gas Company's representative or commercial gas water heater dealer. *American Gas Association.*



This advertisement, sponsored by PAR Plan and prepared under the direction of A. G. A. Industrial and Commercial Advertising Committee, is appearing in eight national business magazines

th public information activities to
int customers, employees, investors and the public with
e under the free enterprise system



(5) Encourage investment of funds in gas industry securities.

(6) Acquaint school students with the modern role of gas and gas appliances.

Determined efforts are being made to help the gas industry prevent government encroachment. In this connection, A. G. A. is now acting as a clearing house to distribute material on free enterprise for local use. An educational advertising mat service for use or adaptation by member gas companies is also contemplated. Ads will explain how the utility operates in its community and the value of its services under the American private enterprise system.

Included among the items to stimulate greater public appreciation of gas will be a fact kit on the safety of modern gas service and gas appliances. This kit is now being prepared together with a periodic photographic service of dramatic gas utilization and service illustrations.

Public relations workshops in cooperation with regional and national industry associations top the list of activities under Target 3. It is anticipated that these will follow the general pattern of the joint workshops held in Boston and Omaha last year, but will devote more attention to discussion of local level problems. Division managers, supervisors and home service personnel probably will be invited along with top management and public relations people.

A. G. A.'s public relations bulletin, "Intercom," is another basic activity that will be continued in 1955. Later in the year, a third how-to-do-it manual will be published to augment the present booklets on plant tours and organized public relations programming. "This Is Your Industry!" a series of feature articles for company publications, is now being used by many companies and will be continued on a monthly basis.

Better public understanding of the gas industry's economic and financial needs will be stimulated through articles and national and localized news releases. The monthly "Pictograph" newspaper mat service on economic and financial subjects will continue to be sent to newspapers throughout the country.

The Association will also continue and expand its present financial activities, including work with editors, writers, and wire services. A. G. A. members will be assisted in appearing before ana-

A. G. A. General Public Information Planning Committee studying 1955 program: (left to right) W. M. Jacobs, Los Angeles, Calif.; John J. Quinn, Boston, Mass.; Otto E. Zwanzig and James M. Beall, A. G. A.; Remick McDowell, Chicago, Ill., chairman; H. Leigh Whitelaw, GAMA; Chester L. May, Dallas, Texas; Edward M. Hahn, Kokomo, Ind.; Harold E. Eckes, Cleveland, Ohio; T. H. Evans, Pittsburgh, Pa.; S. D. Whiteman, Hastings, Neb.; Sheldon Coleman, Wichita, Kan., representing T. T. Arden, GAMA president

A. G. A. Public Information Projects Committee mapping basic information targets and activities for 1955: (left to right) Fred H. Dettmar, Dayton, Ohio; Donald J. McGowan, Jackson, Mich.; Leon Zuckerman, Asbury Park, N. J.; Schuyler F. Baldwin, Rochester, N. Y.; Harry A. Sharrett, Baltimore, Md.; Frank C. Sullivan, Los Angeles, Calif.; Harold E. Eckes, Cleveland, Ohio, chairman; James M. Beall, A. G. A.; Daniel H. Mowat, Chicago, Ill.; Willis M. Kimball, New York, N. Y.; R. D. Lewis, St. Louis, Mo.; James F. Purcell, Hammond, Ind.; Robert Naylor, Minneapolis, Minn.; Jac A. Cushman, A. G. A.

lyst groups. Strong support and augmentation will be given to the current school program of the PAR Education Service Bureau. Factual material on the gas industry will be supplied to students, teachers, encyclopedias and other reference works.

Catalysts for the expanded program are the following committee members:

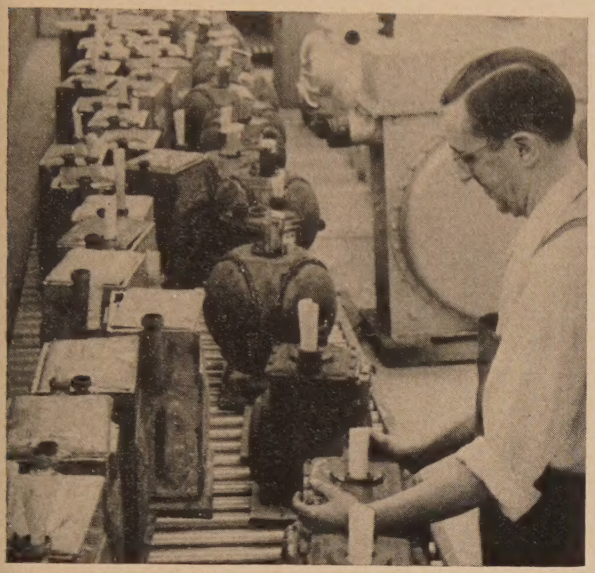
General Public Information Planning Committee—Remick McDowell (chairman), vice-president in charge of public relations, The Peoples Gas Light & Coke Co., Chicago; T. T. Arden, executive vice-president, Robertshaw-Fulton Controls Co., Long Beach, Calif.; Howard Boyd, vice-president, El Paso Natural Gas Co., Houston; Harold E. Eckes, director of public relations and market research, The East Ohio Gas Co., Cleveland; T. H. Evans, vice-president in charge of sales, Equitable Gas Co., Pittsburgh; Edward M. Hahn, president, Kokomo Gas & Fuel Co., Kokomo; W. M. Jacobs, vice-president and assistant general manager, Southern California Gas Co., Los Angeles; Chester L. May, vice-president, Lone Star Gas Co., Dallas; John J. Quinn, vice-president, Boston Consolidated Gas Co., Boston; S. D. Whiteman, president, Kansas-Nebraska Natural Gas Co., Inc., Hastings, Nebraska.

Public Information Projects Committee: Harold E. Eckes (chairman), director of public relations and market research, The East Ohio Gas Co., Cleveland; Schuyler F. Baldwin, director of public relations, Rochester Gas & Electric Corp., Rochester; Horton L. Chandler, assistant to the president, NEGEA Service Corp., Cambridge; Earle A. Clark, public relations director, Northern Natural Gas Co., Omaha; Jack Clarke, director of public relations, Texas Eastern Transmission Corp., Shreveport; Fred H. Dettmar, manager, information services division, The Dayton Power & Light Co., Dayton; Jack A. Fleming, supervisor of public relations, Union Gas Co. of Canada, Ltd., Chatham; Willis M. Kimball, director of information, The Columbia Gas System, Inc., New York; R. D. Lewis, advertising manager, Laclede Gas Co., St. Louis; Donald J. McGowan, director of public relations, Consumers Power Co., Jackson; Daniel H. Mowat, manager of press relations, The Peoples Gas Light & Coke Co., Chicago; Robert Naylor, director of public relations, Montana-Dakota Utilities Co., Minneapolis; Howard A. Praeger, manager of public information, New York State Electric & Gas Corp., Binghamton; James F. Purcell, manager of public relations, Northern Indiana Public Service Co., Hammond; Ray T. Ratliff, director, advertising and publicity, The Gas Service Co., Kansas City; Harry A. Sharrett, manager of publicity, Consolidated Gas Electric Light & Power Co. of Baltimore, Baltimore; Frank C. Sullivan, director of public relations, Southern California Gas Co., Los Angeles; W. E. Wilson, director of public relations, United Gas Corp., Shreveport; Leon Zuckerman, public relations director, New Jersey Natural Gas Co., Asbury Park.

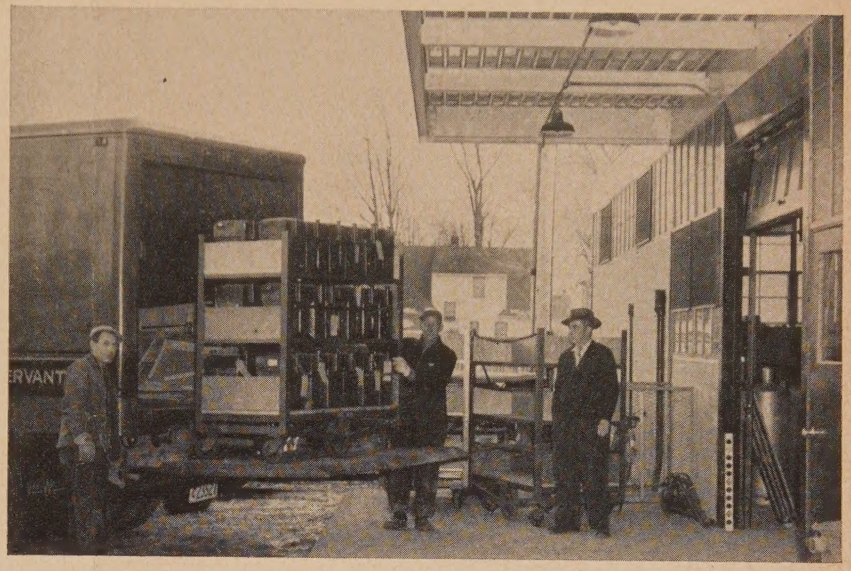
Compendium Committee Report ready

THE AMERICAN Gas Association Accounting Section announces the availability of the Compendium Committee Report, 1954, a bibliography of Section material from 1938 to 1952. The present committee reviewed material for the years 1951-1952, and the report contains reviews of material contained in A. G. A. "Proceedings," 1936-1952; A. G. A. "Monthly," 1936-1952; "Joint Conference Proceedings," 1938-1952. The committee's report has been prepared under the chairmanship of H. F. Quad, Public Service Electric & Gas Co., Orange, New Jersey. The report is available from A. G. A. Headquarters, $1.00 to Association members; $2.00 to non-members.

Assembly line meter repair



Meters of varied sizes move smoothly along conveyor at Union Gas Company's new centralized meter repair station, Chatham



Meters gathered from system's districts are brought to central station in van equipped with hydraulic lifts for ease of loading. Some 15,000 meters go through shop annually

By GAVIN H. D. MARTIN

Chief Engineer
Union Gas Company of
Canada Limited

Meter repairs for the entire system of Union Gas Company and City Gas Company of London are now centralized in Chatham, Ontario, in a new building where assembly-line techniques can be employed, with resulting economy of operation.

There are approximately 88,500 active gas meters in the Union system, located in four districts as follows: Windsor, 34,500; Chatham, 20,250; Sarnia, 11,750 and London, 22,000. Since government regulations require that all meters be checked for accuracy at least once in six years, the annual turnover of meters is one-sixth of the total, or approximately 14,750 meters per year. When a meter is brought in for proving it is checked externally and internally before being government tested.

Until recently, this work was done at each of the four company districts where every meter was manhandled from truck to storage, to repair bench, to test bench, to paint bench and finally to storage. The handling costs were excessive but because of the relatively small number of meters repaired, mechanization could not be justified. Uniformity of cost and quality was difficult to maintain.

Consideration of these factors led to the decision to establish a central meter repair shop and transfer the meters by truck to and from repair. To ensure the meters would not suffer in transportation, several meters were carried in the rear trunk of cars for more than 1,500 miles and then checked. No detrimental effects were evident and it was decided the relatively short distances involved from central repair would not be detrimental to meter accuracy.

No space at any of the districts was available to house the central repair shop and it was necessary to design and build space to meet requirements. Since there is great diversity of meter types in the Union-City system, ranging from five and ten light tin meters to Emco, Iron Clad, Iron Case, Tobey and Begwaco bolt-up types, it was decided the greatest time saving device would be conveyors, which would minimize handling, rather than special jigs and other automatic equipment which could handle only a part of the total.

To bring meters to and from the districts, carts were designed with three tiers which could be loaded directly on to a covered truck by a hydraulic tail gate, minimizing handling and eliminating the necessity of a ramp or platform for loading and unloading.

Meters received at central repair are wheeled into the shop in these carts to the incoming prover where their condition is recorded. From here they are placed, because of bottom irregularities, on small pallets which carry them smoothly on the conveyors to the sand blast cabinet. All conveyors, excepting the overhead unit at the paint booth, are graded for gravity flow.

Sand blasting is something new in

(Continued on page 50)

Peoples Natural Gas reports on its safety program—
second in a series of articles about 1954 winners of A.G.A. Awards

He makes safety a full-time job

Leo Nuhfer, Peoples Natural safety director, is A. G. A. Accident Prevention Committee head

Mr. Nuhfer talks safety with management, President J. J. Jacob, Jr. (seated); H. D. Borger, executive vice-president (center), and vice-presidents R. J. Plank and Christy Payne, Jr.

By MARION M. THRASH
The Peoples Natural Gas Company
Pittsburgh, Pennsylvania

If you happen to commit a breach of safety etiquette around an installation of The Peoples Natural Gas Co., you are most likely to hear a familiar phrase:

"Don't let Leo Nuhfer catch you doing that."

This is, of course, a tribute to the successful type of safety consciousness Safety Director Leo Nuhfer has propagated throughout the over 16 years he has held that responsible position.

But Mr. Nuhfer, a big fellow in stature, with companion attributes of a winning personality and an excellent sense of down-to-earth humor, is the first to admit that management backing of a safety program is the principal factor in whether or not it will be successful.

Since in the past three years Peoples Gas has twice won first place among competing gas companies in its class in the annual contest sponsored by the National Safety Council; and since it has in the same period received Merit, Honor, and A. G. A. commendation awards, the evidence is fairly clear that Mr. Nuhfer does have the wholesome kind of management backing that has made Peoples' safety program a marked success.

There is a corresponding company-wide realization, particularly in the supervisory group, that accidents cause hardships and cost money. There is widespread recognition that accident elimination is a vital factor in achieving economical and efficient operation, and in boosting employee morale.

Naturally, all of this is not merely the consequence of a positive philosophical attitude. Although this is a necessary starting point, as Mr. Nuhfer and the Peoples' management realize, there is hard work involved in reaching the end point—a successful safety program.

To this end, Mr. Nuhfer has dedicated himself with a zeal comparing favorably with the beaver building a dam. Like a rural minister making his circuit, he travels from one end of the Peoples' Western Pennsylvania system

to the other preaching the gospel of avoiding hardships and saving lives through being careful. His lifetime experience in the gas industry and his academic accomplishments, including a BS degree in petroleum and gas engineering and the professional EM (Engineer of Mines) degree from the University of Oklahoma, are assets that serve him well in his mission.

"Most accidents are caused by human failures," Mr. Nuhfer will tell you, and he has brought the point home with many successful safety program innovations.

On Monday mornings, throughout the Peoples' System, the work day in the various districts starts with a safety meeting. At this appropriate time, employees exchange ideas on safety. The object, of course, is to instill safety consciousness for the week ahead.

When an unsafe act is spotted in a Peoples Gas operation, immediate attention is focused on it through what is known as a "tail gate safety talk." Employees gather around and hear, at first hand, why the act is unsafe. This has the salutory effect of nipping accidents in the bud at the source.

As still another innovation, employees who have suffered disabling injuries are called on to serve as lieutenants in carrying the safety message to other employees. When safety inspections of Peoples' installations are made, employees are encouraged to assist Safety Director Nuhfer and his staff in finding possible hazards.

Safety Director Nuhfer makes full use of various channels of communication in getting the safety story across. He cooperates closely with the company's editorial department in making safety news available for Peoples' publications and the outside press. National Safety Council posters are used throughout the system, and sound motion pictures pertaining to safety subjects are obtained from various sources.

The A. G. A. "Safety Reminder" is reproduced and distributed monthly. Detailed statistics are kept, and a constant flow of mimeographed material keeps the company abreast of safety progress.

This material describes all lost time and all motor vehicle accidents; shows the number of accident-free hours worked by the various city plants, compressor stations, and field districts; reveals the number of lost-time accidents, non-disabling injuries, off-the-job accidents, and the dates of lost-time accidents in the various districts; and breaks motor accident information down for the various districts.

Peoples' suggestion system, known as "Coin Your Ideas," has proved an excellent source-point for worthy safety ideas. These are referred to the safety department for evaluation.

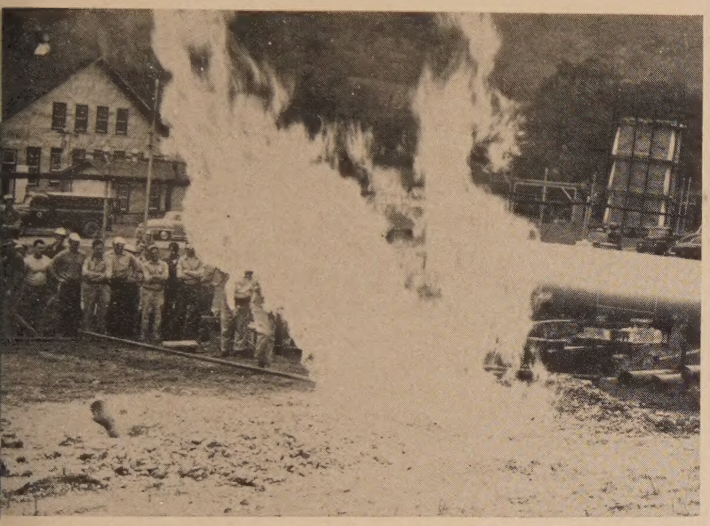
In addition to first aid training, which is constantly in progress for employees in the Western Pennsylvania area served by Peoples Gas, other important safety schooling is frequently on the agenda. Through special system-wide courses developed by Safety Director Nuhfer, Peoples' employees are now equipped with specialized knowledge in fighting fires of various types with extinguishers. Shop employees have also been instructed in the proper techniques of wearing gas masks while repairing leaks.

These two courses, recently made available to all district employees, attracted considerable attention outside the company. The press, recognizing the public as well as company value of such courses, gave the special classes extensive coverage, and thus Peoples was benefited in public relations.

Supervisors, who are held directly responsible for the safety of their employees in the Peoples System, are participating partners in the company's safety program. At regularly held foreman's meetings, supervisors are kept aware of the fundamentals of safety. They report all accidents, no matter how minor, to the safety department, and record all first aid cases; and they analyze, with the safety director, accidents that occur in their districts.

As a special incentive, supervisors of city plants, compressor stations, and field districts having superior safety records throughout the year are honor guests at annual safety luncheons. Management cooperates in sponsoring these luncheons.

(Continued on page 47)



System-wide courses teach station, city plant, and field personnel proper methods of fighting gas fires with various types of extinguishers under all conditions

Peoples Gas shop employees learn proper techniques of wearing hose masks used while repairing leaks. This instruction is part of continuous program

Facts and Figures

Prepared by A. G. A. Bureau of Statistics

The continuing boom in the home building industry has had a marked effect on gas appliance sales. January housing starts of 88,000 units were 32.5 percent greater than in the same month a year ago. During January shipments of gas ranges totaled 155,100 units, 13.2 percent greater than last year. For the year 1954 shipments of gas and electric ranges were down 7.3 and 4.4 percent respectively when compared to 1953 shipments.

On the other hand, water heater shipments by gas and electric appliance manufacturers were up 4.5 and 1.2 percent respectively over 1953. Gas water heater shipments during January, 1954 aggregated 198,300 units, representing an increase of 20.6 percent over shipments made a year ago.

The trend to gas heating in new homes has been most perceptible during 1954 and gives every indication of continuing. During 1954 over 660,000 gas-fired furnaces were shipped, an increase of 28.5 percent over 1953. In the current January, 46,800 units were shipped, 51.0 percent more than a year ago.

Gas dryer shipments for the year totaled 236,000 units, up 48.4 percent over last year when 159,000 units were shipped and 11 times greater than shipments made during the 1947-1949 period, when an average of only 20,000 gas dryers were shipped. Data on dryer shipments are released regularly by the American Home Laundry Manufacturers Association.

The addition of the gas dryer to the family of home gas appliances has enabled the industry to add a steady all year-round load. More than 800,000 homes equipped with gas dryers today are consuming about 30 million therms of gas annually in these appliances. Although this new load represents a relatively small portion of total utility sales, the steady all year-round nature of the

(Continued on page 52)

SHIPMENTS OF GAS AND ELECTRIC DRYERS

Year	Gas	Electric	Ratio of Electric to Gas
1947	20,000	38,000	1.9
1948	15,000	73,000	4.9
1949	25,000	81,000	3.2
1950	68,000	251,000	3.7
1951	138,000	349,000	2.5
1952	161,000	454,000	2.8
1953	159,000	538,000	3.4
1954	236,000	662,000	2.8

SALES OF GAS AND ELECTRIC RESIDENTIAL APPLIANCES DURING JANUARY

(WITH PERCENT CHANGES FROM THE CORRESPONDING PERIOD OF THE PRIOR YEAR.)

	January 1955		December 1954		Twelve months ending December 31, 1954	
	Units	Percent Changes	Units	Percent Changes	Units	Percent Changes
RANGES						
Gas	155,100	+13.2	147,300	+ 9.6	2,024,800	— 7.3
Electric	n.a.	n.a.	97,200	+15.2	1,248,500	— 4.4
WATER HEATERS						
Gas	198,300	+20.6	166,800	+17.5	2,281,100	+ 4.5
Electric	n.a.	n.a.	49,400	+11.5	784,500	+ 1.2
GAS HEATING						
Furnaces	46,800	+51.0	53,100	+58.5	660,200	+28.5
Boilers	3,200	+10.3	3,900	+25.8	73,800	+ 2.5
Conversion Burners	5,200	—40.9	9,200	+ 9.5	224,400	+ 5.3

GAS SALES TO ULTIMATE CONSUMERS BY UTILITIES AND PIPELINES DURING JANUARY

(MILLIONS OF THERMS)

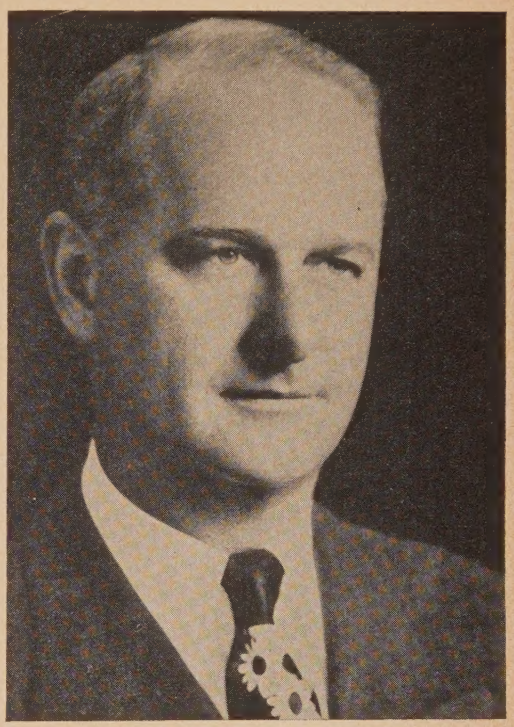
	1955	1954	Percent Change
January			
All types of gas	7,212.3	6,556.3	+10.0
Natural gas	6,820.4	6,161.5	+10.7
Other gases	391.9	394.8	— 0.7
Twelve Months Ending January 31			
All types of gas	61,373.1	56,888.6	+ 7.9
Natural gas	58,046.2	53,676.3	+ 8.1
Other gases	3,326.9	3,212.3	+ 3.6
Index of Total Gas Utility Sales (1947-1949 = 100)	206.0		

PERTINENT BUSINESS INDICATORS, JANUARY

(WITH PERCENT CHANGES FROM CORRESPONDING PERIOD OF THE PRIOR YEAR.)

	January		Percent	December		Percent
	1955	1954	Change	1954	1953	Change
Industrial activity (1947-1949 = 100)	131	125	+ 4.8	130	126	+ 3.2
Consumer prices (1947-1949 = 100)	114.3	115.2	— 0.8	114.3	114.9	— 0.5
Housing starts, Non-farm (thousands)	88.0	66.4	+32.5	91.0	65.8	+38.3
New private construction expenditures ($million)	2,027	1,710	+18.5	2,202	1,917	+14.9
Construction costs (1947-1949 = 100)	142.6	135.7	+ 5.1	142.2	135.5	+ 4.9

A.G.A. and regional associations



By F. M. Banks

President,
American Gas Association

President,
Southern California Gas Company

This is my first talk, as president of the American Gas Association, before a regional gas association. It is quite fitting that my debut should be made before this group.

The New England Gas Association is the oldest gas association in North America. It traces its origin back to 1871. From the standpoint of prestige and knowledge gained through the years, as well as from the fine accomplishments of your Association over more than three-fourths of a century, it is important that you should have a clear understanding of the relationship between A. G. A. and the regional associations and with its individual members.

Roy Wright in his article which appeared recently in an issue of *Gas Age* told of the "long look" your officials had taken at the association's affairs and the resulting stabilizing effect on your activities. That study was of interest to A. G. A. for as many of you know, the Board of Directors last year authorized an outside agency to make a study of American Gas Association activities. Committees of Association officers and staff members are reviewing the findings and recommendations currently. While not all of the recommendations will be concurred with, I believe any such review is bound to produce results.

And at this point I would like to comment specifically on the report of Fuller & Smith & Ross, the consulting agency that did the study. Perhaps you may have heard or read that the firm expressed a thought more or less to the effect that A. G. A. might, if it were to do a thorough job over the whole nation, and for all segments of the industry, producers, pipelines, and distributing companies, undertake all association activities for all branches and regions.

I wish to state clearly that in all conversations I have had with officers, directors and officials of member companies of A. G. A. as well as with members of the Association staff, I have found no one who favored such a view. As for myself, it seems entirely clear that no one association can adequately represent the diverse interests of all segments of the industry.

Speaking of regional associations, it is my opinion that strong regional activity by regional associations is a most effective means of getting things done, and I can tell you with certainty that the national association seeks only to discover means for working more closely with strong regional associations.

I am sure there must be some members of NEGA, just as there have been members of other regional and state associations, who question from time to time the need for belonging to both a regional and a national trade organization. Basically, I believe, it has been the major purpose of A. G. A. to carry on at the national level those activities which could not successfully be initiated at a local level. A. G. A. also seeks to pursue for its member companies other activities and programs which those companies could not afford to carry on individually.

Last year, Buck Eacker, ex-president of NEGA and my predecessor as president of A. G. A., addressed the Pacific Coast Gas Association in Vancouver, British Columbia. I would like to repeat one of Buck's statements.

"Perhaps we can read a special significance into my trip from Boston, one of North America's most eastern cities, to Vancouver, one of the most western cities on this continent, to attend this meeting," Buck said. He went on to say: "I mention my travels only to prove the wide continental unity of our gas industry. North-East-South-West—there are no borders for the gas industry in North America."

Today I am reversing Buck's travels, coming from Los Angeles, on the West Coast, to Boston, on the Atlantic shores. I believe we can still find special significance in the continental unity of our industry. I speak not alone of geographic unity where gas utility and pipeline companies, as well as appliance and equipment manufacturers from every section of the United States and Canada are united as members of national gas associations. That is a fine unity, and one from which we can all benefit.

There is a great need for a unity that is closer than the geographic relationship, if our gas industry is to maintain and increase the leadership of gas as the ideal fuel for home and industrial use. The gas industry must close ranks and present a solid front against the increasingly savage onslaughts of our competitors. None of us, whether we serve those areas where natural gas has long been a bargain fuel or highly competitive areas at the end of the pipelines as New England now finds itself—none of us today can truthfully say: "I am not faced with real competition."

Basic differences in opinion are bound to exist in different parts of the country

From an address to the New England Gas Association Annual Meeting, Boston, Mass., April 24-25, 1955.

—in Los Angeles and in Boston, for instance. I am not enough of an optimist to think we can resolve these differences simply by declaring: "We Must Unite."

There is—and must be—a mutual area of agreement larger than at present where most of these differences can be compromised. A path of progress can be charted out of this area of agreement that each of us can follow without sacrificing principles or prestige.

Distributing companies in New England may view the recent Supreme Court decision in the Phillips case somewhat differently than the producers in the Southwest. For it is just as vital to all parties concerned that the cost of natural gas up here at the end of the pipelines does not price this precious fuel out of the competitive market as it is that the further encroachment of federal authorities into privately managed business must be resisted.

Realistically-priced natural gas can greatly aid the efforts of your energetic New England Council in rebuilding the industrial stature of New England. And as long as ample supplies of natural gas exist, I do not believe any gas utility company wants to revert to manufactured gas as an energy source, simply on a cost basis.

For this reason the whole natural gas industry, and today that embraces about 90 percent of the entire industry, must work together as a team. We must unite in telling the story of the real modernity of gas appliances and gas services to the consumer. And here is one of the activities where I believe each member, whether individual or company, can benefit from A. G. A. programs and membership.

The Gas Industry Development Program is blazing a trail for all of us to follow. But there has been some misunderstanding, I am afraid, as to the purpose of this program. Some in the industry think the Gas Industry Development Program was merely a statement of lofty principles. There are others who feel A. G. A. was remiss in not trying to enforce adoption of any or all of the 15 basic principles advocated in the original plan.

Everyone who understands the nature of a voluntary association understands why it never has been the purpose of A. G. A. to try to tell its members what to do. In this particular program, A. G. A. assembled the thinking of executives from member companies in the form of a code, or a set of ten commandments, if you will, which local companies can implement or can ignore. That process is more or less typical of the way the association must function.

A committee under the Gas Industry Development Program is working with a group from the Gas Appliance Manufacturers Association to encourage manufacturers of equipment and accessories to advertise the customer satisfaction realizable from the use of gas, quite apart from their own product advertising. Such advertising could greatly add to the impact of that already being done by A. G. A., GAMA, local gas utilities and appliance manufacturers in supporting domestic and industrial use of gas.

Fine results, both tangible and intangible, have resulted from the action programs carried out in the ten demonstration cities selected under the Gas Industry Development Plan. For example, my company spent approximately $100,000 in Pasadena to carry on the test program. It was money well invested. We are sure that there have been developed in the test area some activities, some procedures, which are already getting results for us as they have been applied more widely throughout the company.

The best proof I know of the success of the GID Program is that each of the ten companies that agreed to select one area of their territory for a demonstration program, has agreed to carry the action program on during this year. Many companies are expanding the program into other cities and areas in their territory. We have had requests for complete information from companies that did not participate originally, with a view to applying the GID Program principles to their own benefit.

It has seemed to me that some individuals have become so used to having our PAR program in being that they have forgotten how important it is. I,

(Continued on page 50)

American Gas Association participates in atomic tests

THE AMERICAN GAS Association is participating in the civil defense phase of the forthcoming atomic test, to be held this month at the Nevada Test Site, Mercury, Nev., under the auspices of the Federal Civil Defense Administration. Various major industries have been asked by the Federal Civil Defense Administration to participate.

The objectives of the A. G. A. participation are to determine the effects of ground shock, and atmospheric overpressure and elevated temperature on typical gas industry installations as a result of atomic explosions. Included in the test would be underground gas mains, underground vaults and pits containing pressure regulators and valves, service piping, house meters and piping, domestic gas burning appliances and emergency gas repair and replacement equipment on trucks.

These will be installed at various distances from a focal point called ground zero. The ultimate gas industry objective of the test is the preparation and distribution within the industry of a report or a manual indicating the areas, extent and types of expected damage from nuclear explosion, and giving recommendations for types of construction and equipment that will minimize such damage.

A Subcommittee on Atomic Test has been appointed by the Executive Committee on Safety of A. G. A. to act as the executing agency for the Association. This committee included: John J. Novy, The Peoples Gas Light & Coke Co., chairman; C. George Segeler, A. G. A., secretary; James F. Bell, Portland Gas & Coke Co.; Donald S. Bittinger, Washington Gas Light Co.; Baxter D. Goodrich, Texas Eastern Transmission Corp.; H. G. Laub, Nevada Southern Gas Co.; and H. L. Masser, Southern California Gas Company. Harold Massey, Gas Appliance Manufacturers Association, is a member of the committee and has acted as liaison officer in obtaining equipment for the test.

All of the equipment has been made available to the committee by GAMA members as a public spirited contribution to public welfare and national defense.

Guy Corfield, Southern California Gas Co., has been appointed chief project officer, with Mr. Laub of Nevada Southern Gas Co., and H. E. Ferguson, The Peoples Gas Light & Coke Co., as deputy project officers.

In an interim report to the gas industry, Mr. Corfield advised that a two-story and basement house of brick and cinder blocks will be erected at the test site. The house will be equipped with a gas burning range, refrigerator, clothes dryer, incinerator, water heater and househeating unit, with an assembly of gas appliance controls. Typical distribution mains will be underground and regular house meters and house piping will be installed.

Another ranch type house, one story high, will be constructed of wood and will be equipped similarly to the two-story brick house. Two trucks will be placed in the test: a heavy repair truck and a light emergency truck. Both trucks will be completely equipped with repair and emergency equipment.

Conventional gauges will be used to test joints and connections for leaks before and after the explosions. Information on ground shock, atmospheric overpressure and elevated temperature will be available from the normal routine of the over-all test. Photographic service will be made available before and after the test, according to Mr. Corfield.

View through window shows Mary E. Huck (right), Ohio Fuel home service director, and Shirley Nolan, Columbus director, busy in kitchen and laundry

Kitchen magic in Ohio

Miss Huck demonstrates gas-fired barbecue unit

A complete, modern, all-gas kitchen, so unusual it will be featured in two national magazines, has been put on display at the main office of The Ohio Fuel Gas Co., Columbus, Ohio.

Columbus housewives, and those interested in home modernization and designing, are invited to go through the kitchen any time from 9 a.m. to 5 p.m. Monday through Friday. Viewers may walk into the kitchen from the office lobby.

Redwood frame construction—almost a full-fledged house built in the office lobby area ordinarily used as a lounge—encloses the kitchen.

The display was built in cooperation with Republic Steel Kitchens of Canton, which provided all materials and fixtures except gas appliances. Ohio Fuel display shop workmen built the housing and installed the appliances.

Miss Ruth Gaffney, a home economics consultant of New York, planned the kitchen and came here for Republic Steel Kitchens to oversee the installation.

The display demonstrates a contemporary kitchen-laundry in which careful planning has made the most of the space available. With the aim of easy meal preparation, the kitchen has been arranged according to work areas of sink, refrigerator and mixing center.

The two national magazines which will feature the kitchen in spring issues are *Small Homes Guide* and *House Modernization*. They will appear about March 15 and April 15.

The sectional gas range has made possible one of the outstanding features. The burner section of the range has been built into an island unit placed in the center of the kitchen floor. The unit provides ample counter space around the burners, for ingredients and utensils.

Back of the burners, along one wall, the sink, built-in oven, dishwasher and refrigerator have been placed as close together as possible. A mere turn-around at the sink finds one facing the free-standing gas range burner units in the center of the room.

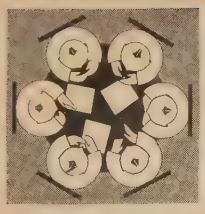
The mixing center is located along another wall under a mock window. Ample storage space is available and a planning desk is located at one end of the mixing center counter.

Third wall of the open-view kitchen has sliding doors, behind which are the washer-gas dryer combination and the gas water heater.

The kitchen-laundry has been decorated by Miss Gaffney in a striking combination of nasturtium, mustard and charcoal hues. White kitchen cabinets were used to give a wider choice of color and to lend flexibility in changing the color scheme in the future.

Viewers will enter the model kitchen from the Ohio Fuel office lobby over the small patio made of inlaid slate and set off with window planter boxes. The gas-fueled barbecue unit is installed in an outside wall, handy to the patio.

The entire effect is a colorful kitchen, easy to work in and complete with supplements for relaxation and recreation.



Industrial relations round-table

Prepared by
A. G. A. Personnel Committee

Edited by W. T. Simmons
Assistant to the Personnel Manager
Philadelphia Electric Company

● **Political registration required by AFL Local**—The *Associated Press* reports from Johnstown, Pa., that Local 910 of AFL's Construction and General Laborers Union has ruled that its members must be registered voters in order to work on union jobs. The ruling is said to affect some 2,900 union members in an 11-county area of Pennsylvania.

According to AP, President Pete Livolsi of the union explained: "We're not interested in party affiliation. We're out to get the men registered. Then it is up to them how they want to vote."

● **Employees' greeting card bar**—Workers at McCormick & Co., Baltimore, can buy a greeting card for that almost-forgotten anniversary or birthday at a self-service unit near the plant cafeteria. This greeting card bar, similar to those seen in stationery stores, displays samples for various occasions. Purchaser selects the one he wants, gets it himself from the proper drawer, then drops his money in the coin box. A coin changer, stamp dispenser, and mail box complete the setup.

To get maximum value from this employee relations idea, the company posts a list of all employees sick more than five days in each department. Employees really use the bar to send get-well cards to convalescing co-workers.

● **Private pension and welfare funds**—Employer contributions to private pension and welfare funds in the communications and public utilities industries amounted to $29,000,000 in 1929. In 1953, employer contributions for the same purpose amounted to $563,000,000, an increase of 1,841 percent.

● **To pass the hat—or not?**—It's often a touchy problem to decide whether to let an employee take up a collection for some other employee, or for a club or organization promoting a good cause. Someone's feelings will be hurt when you have to say "no". Here are some results from a study of 30 companies made by the Associated Industries of Cleveland.

They found that only a very few companies rule out solicitations altogether. Even then, these companies admit that "the hat is probably passed on the quiet."

Most companies are inclined to approve contributions of a personal nature—such as weddings, funerals, departures, and anniversaries. Least likely to win management favor (less than 25 percent approve) are solicitations for charitable causes other than those of Community Chest stature, and those by churches, lodges, and fraternal groups.

Most companies try to keep solicitations under control by confining them to the employee's immediate department. Almost all companies indicate a need for prior approval by the foreman or his boss before the sale of tickets or solicitations.

● **Safety and foot trouble**—When looking for personal factors affecting a worker's safety record, examine more than just his mental attitude. Take a look at his feet. They may be bothering him more than financial or family troubles. That's the advice of E. F. Thomas, assistant manager of industrial relations, Marquardt Aircraft Co., Van Nuys, California.

A sampling in early 1954 of 15 men and 15 women from Marquardt showed that all the men and 12 of the women suffered from some kind of foot trouble—over-run heels, athlete's foot, corns, and calluses. Plant records also showed that those with the worst foot conditions were those who visited the first-aid room most often, regardless of the nature of the complaint.

Marquardt, sensing the relationship between foot troubles and accidents, began emphasizing better foot care among its employees. The company made available free chiropodist service. This activity, together with a rejuvenated safety program, dropped the company's accident frequency rate from 11.2 in 1953 to 5.9 in 1954.

Thomas recommends a four-point program for combating the foot problem:

1. Include foot examination in the preemployment physical check-up.
2. Add a chiropodist to the medical staff. If not possible, at least alert the plant physician to the need for diagnosis and treatment of employee foot ailments.
3. Broaden group insurance to include medical visits for foot treatment.
4. Liberalize the safety shoe program to include sensible shoe appeal. Discourage the practice of wearing worn-out dress shoes for work. Emphasize the wisdom and economy of sturdy, practical, comfortable shoes.

● **That "magic age" of 65**—Are there some in your company who argue for a flexible retirement age? Perhaps you favor it. Here's an argument against it. George K. Bennett writes in "Industrial Medicine and Surgery" that flexible retirement age is not in the cards until we are able to evaluate the work potential of older people—and he says we are not able to do that now. Bennett is president of The Psychological Corporation. For a reprint of the article write: The Occupational Health Institute, 6 East 39th Street, New York 16, N. Y.

● **NLRB rulings**—*A problem caused by competitive unions*—Stirring the ashes of an early organizational battle between CIO's International Union of Electrical Workers and the unaffiliated United Electrical Workers, the National Labor Relations Board finds that at an Indiana plant IUE brought illegal pressures to have a former UE member kept off her job, and the employer was equally guilty in yielding to IUE tactics, which consisted of work stoppages.

The stoppages took place at the Indianapolis plant of P. R. Mallory & Co., when a former UE member returned to work after being on sick leave, and because of seniority was returned to the payroll while IUE members were being laid off.

IUE had succeeded in ousting UE as bargaining representative at the plant after an organizational battle in 1949 that centered on alleged Communist domination of UE.

In 1951, the first work stoppage took place over retention of the former UE member (plus another worker who didn't belong to IUE) while IUE members were being laid off in line of seniority. A work stoppage over the ex-UE member took place in 1953, after she had returned from an authorized sick leave. Her return required lay-off of another employee, an IUE member. When the employee told the superintendent she felt she might be molested if she stayed on the job, he sent her home.

The community relations manager then had the disputed employee instructed to return to work next day. Her return brought another work stoppage, and she was sent home. She did not return, and although she called a number of times regarding her job, she was told by the community relations manager that for her own "safety and benefit" it was best she stay away from the plant. When the employer learned she had taken other employment her connection with Mallory was severed because she had "quit without notice."

The Board finds that IUE stewards at the plant instigated and directed the work stoppages, and in finding the company and union jointly responsible under its reinstatement and back pay order it concludes that the employer "was well aware of the reason for the employees' objection" to retention of the former UE member.

System-wide policy for public utilities—Further outlining the scope of its bargaining unit severance policies, the National Labor Relations Board emphasizes that elections at public utilities will continue to be guided by the principle that a system-wide unit is the "optimum appropriate unit" for gas, electric and other utility companies.

The Board states that when it set out its new doctrine for craft and departmental unit severance in the American Potash ruling it did state that there would be no further extension of the prior National Tube doctrine that severance elections would not be permitted in certain

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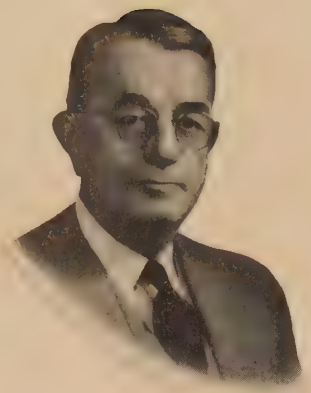
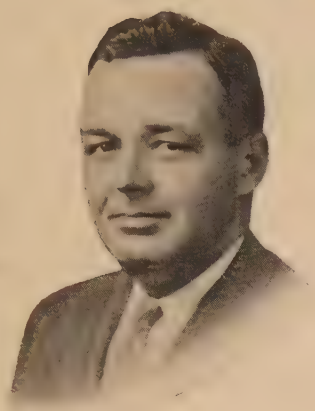
Howard B. Noyes, senior vice-president, Washington Gas Light Company, is 1955 conference chairman



N. B. Bertolette, president, Hartford Gas Co., Conn., will address one of the technical luncheon sessions



H. Reid Derrick, president, Alabama Gas Corp., will deliver keynote speech on research and utilization

Preview '55 research advances

The tenth annual American Gas Association Research and Utilization Conference will convene on April 27 and 28, 1955 at the Hotel Statler in Cleveland, Ohio. Aiming at the optimum in customer satisfaction, research and utilization committees of the Association will present a program reporting on the progress made in their field during the past year as well as providing for maximum discussion by those attending. This Conference represents the only nationwide forum devoted to this work.

The expanding gas industry is ever mindful of the most important factor of satisfied customers in building a firm foundation upon which its business can grow. Ever improved appliances through research, development and utilization service are mandatory if we are to maintain a growing satisfaction. The Conference is aimed at reporting our gains to date in these domestic fields.

Led by H. B. Noyes, senior vice-president, Washington Gas Light Co., the Conference will present an imposing array of speakers and subjects. The program will consist of formal papers, informal panel discussion groups, luncheon addresses and a clinic discussion. The Conference is sponsored by the Committee on Domestic Gas Research and the A. G. A. Utilization Bureau.

Prominent in the list of speakers are H. Reid Derrick, president, Alabama Gas Corp., who will keynote the Conference, and N. B. Bertolette, president, Hartford Gas Co., who will address one of the luncheon gatherings. The second day's luncheon will feature an address by a prominent Cleveland industrialist, R. H. Collacott, assistant to chairman of the board, Standard Oil Company of Ohio.

Gas year round air conditioning will have a prominent place on the program with A. B. Newton, chief design engineer, The Coleman Co., discussing the use of gas for summer air conditioning and Leon Ourusoff, chairman of the Committee on Domestic Gas Research and Task Group for Gas Air Conditioning, reporting on the work of the A. G. A. Air Conditioning Research Group.

The Clinic will center around a technical discussion of the subject of "What about our competition—and what is the way to meet it?" Such factors will be reviewed as the electric heat pump, the very high speed electric water heater, new advancements on electric ranges and oil and electric resistance house heating.

Papers on venting, relief devices for water heaters, service surveys, in addition to papers on field experience with new non-aerated pilots, gas incinerator research and clothes dryer service problems will make this Conference of major interest to manufacturers, utilization men, executives, service men, sales personnel and others.

In addition, a new feature will be added on Friday, April 29, the day following the formal closing of the Conference. A special display will take place at the A. G. A. Laboratories. Major technical improvements on domestic gas ranges will be shown to those attending whose time schedules permit. Many new advances in the range field both by manufacturers and Association research have become available recently and this will be a fine opportunity to view many of them closely.

This program is devoted to industry advances and represents in form and content many of the items suggested at past Conferences.

Gas appliance salesmen go to college to upgrade efforts

Group which helped launch New England program of college courses in gas appliance selling include (l. to r.): William Greene, Carl Byoir and Associates; Gerry Lake, Boston University instructor; John Waters, director, Boston University Evening Div.; Wilbert Miller, sales promotion manager, New England Electric System Gas Div.; John J. Quinn, vice-president and William Geller, director of sales promotion, Boston Consolidated Gas Co.; Edward G. Twohey, president, N.E.E.S. Gas Div.; Henry Power, New England Gas and Electric Association; Henry Kievenaar, Boston Consolidated Gas Company

GAS APPLIANCE salesmen are college-bound! No banners, raccoon coats or football yells for these serious-minded students, however . . . they are attending college at night with the expressed purpose of upgrading their salesmanship. Gas Appliance Manufacturers Association, in cooperation with regional utility associations and local gas companies, is sponsoring the project.

Typical of the programs is the one being given by the evening division of Boston University at the Malden headquarters of New England Electric System. Cooperating with GAMA and the Electric System's gas division to give the New England course are Boston Consolidated Gas Company and New England Gas and Electric Association. The course is being attended by 50 N.E.E.S. salesmen. Additional courses will be given soon by other New England colleges in Boston, Cambridge, Worcester and Providence.

GAMA is also cooperating with Milwaukee Gas Light Company in a course being given by Marquette University, and the Manufacturers Section, Pacific Coast Gas Association, in a course being offered at the University of Southern California in Los Angeles. All the courses are based on a program developed by GAMA and the Association of University Evening Colleges.

A complete course outline and a detailed instructor's manual—based on the courses given successfully by City College of New York in Newark and in Brooklyn, have been made available by GAMA to gas companies and universities interested in sponsoring courses in gas appliance salesmanship.

Advance training proves worth in Topeka outage

IT HAS BEEN PROVED time and time again that, especially when emergency strikes, cooperative, trained, loyal employees are a company's most valuable asset. This was certainly true on February 23 when two welds in the pipeline near Topeka, Kansas failed, and the line exploded. The intense cooperation of Gas Service Company employees, coupled with the assistance of state and city officials and residents, brought a swift end to an extremely critical situation, despite temperatures of 11 degrees above zero and a raging blizzard.

The emergency flared up when a 20-foot section of the pipeline blew out of the ground, and pressure instantly dropped to zero. Approximately 32,000 homes and business places in Topeka and neighboring Valley Falls, Oskaloosa, Ozawkie, Meriden, Perry, Lecompton and Grantville were affected.

Employees responded to the situation at once, acting according to preliminary plans which had been made in the event of such an emergency. Their work was directed by Signor Fink, superintendent at Topeka, and Harold W. Johnston, the company's general superintendent. Within 15 minutes after the break, crews had started the monumental task of turning off each of the 32,000 meters, repairing the line and restoring service to a community of some 120,000 persons.

All through the day of the break and on into the night, crews of company workmen carried out their door-to-door canvass to turn off service. Snow fell so heavily that chains had to be put on all trucks. Alerted by radio and television broadcasts at 15-minute intervals, citizens stayed up until the wee hours of the morning so that company men could get into their homes. Hundreds volunteered to shut off meters or answer phones; not one complaint was received. By early morning, every meter in the area had been contacted and only 1,800 remained to be turned off. At that time, Governor Fred Hall and Topeka Mayor George Schnellbacher authorized company men to break into the homes of those citizens who were still away on the second call.

Within 24 hours, all of the gas meters in the area had been turned off, gas had been restored to the entire system and about 1,000 were using gas again. In two days, service had been restored to all customers where residents were at home.

To accomplish this near-miracle, many utility company employees worked 48 hours without any sleep, and with only an occasional cup of coffee.

Parade of kitchens and laundries to be featured at Convention

A PARADE OF DREAM kitchens and laundries from the pages of major women's magazines will be exhibited at the American Gas Association—Pacific Coast Gas Association Annual Convention in Los Angeles, October 17, 18 and 19. This Parade of Kitchens and Laundries, under joint sponsorship of the host company Southern California Gas Company and A. G. A., will be built in the new Statler Hotel in Los Angeles for the entire A. G. A. Convention.

The following magazines have designated one or more kitchens and laundries especially for the convention: *American Home, Better Living, Family Circle, Good Housekeeping, McCall's* and *Parents'*. According to the A. G. A. New Freedom Gas Kitchen and Laundry Bureau, this is only the beginning. Space will be the only limiting factor.

The Parade of Kitchens and Laundries, duplicating pages from the women's publications, was successfully initiated in St. Louis in 1953 and was duplicated in 1954 in Atlantic City. Last year's parade was so successful that there was a shortage of space for both kitchens and viewers. Mrs. America opened last year's successful kitchen exhibition.

The 1955 kitchens will present the latest in modular planning and appliance design. A number of new developments in design and layout can be expected. The cabinet manufacturers participating in the A. G. A. New Freedom Program are planning to respond to the interest shown by many utilities in kitchens which highlight built-in gas appliances.

Successful parades and launderamas have been held in St. Louis, Atlantic City, Philadelphia, Chicago, Minneapolis, Newark, Pittsburgh and now Los Angeles.

Economics and engineering of corrosion mitigation program established for Northern Illinois Gas distribution system

System-wide cathodic protection

• This paper in its original form presented a review of the corrosion prevention activities of the Northern Illinois Gas Company and its predecessor, the Public Service Company of Northern Illinois, with a sequence of events leading up to their present cathodic protection policy.

Because of space considerations, this abridged version outlines the extent of their activities on new construction since 1947 and on the distribution system that existed previous to that date. Included is an analysis of the engineering forces required to carry out a program of corrosion mitigation.—Editor

By MATHEW G. MARKLE

Northern Illinois Gas Company
Bellwood, Illinois

The successful conclusion of the trial installations was sufficient to convince the engineers, operating men, and management that a cathodic application for the protection of the distribution system should be utilized provided, of course, that it was economically feasible to do so.

A corrosion engineer was appointed in 1945 to study the problem and formulate a program to be followed. His study indicated that four distinctly different programs should be considered.

1. Application of cathodic protection with a good coating procedure on all new installations of pipe underground.
2. Protection of all of our existing supply mains by the use of rectifiers or anodes as dictated by an economic study.
3. Protection by cathodic application to as much of the existing distribution systems within town boundaries as possible with consideration being given to economic justification and the practicability of such an installation.
4. Study and analysis of the stray current areas to effectively control their drainage.

For very good reasons, it was decided to concentrate first on providing protection to all new installations. Studies made during the war period indicated that the company was about to enter an expansion program of considerable extent.

There appeared to be good prospects of an additional supply of natural gas to the Chicago area, and plans were being formulated to make a complete conversion to natural gas. Also, there was every reason to believe that the building of homes in the company territory would increase greatly after the war resulting in increased activities to extend gas facilities.

And last, but not least, the economics of applying cathodic protection to new installations of distribution main appeared very favorable. By the use of magnesium anodes, cathodic protection could be applied to a new installation of steel main for not more than one percent of the total cost making the complete protection job, including the coating, six to eight percent, depending on the size. These percentages, by the way, still hold about the same today.

Progress in establishing a standard practice to be followed on new construction was slowed down considerably because of the difficulty in obtaining the materials needed to start the program. Procuring the magnesium anodes provided a real problem, and a suitable insulating feature for the meter set was not being made at that time.

However, in less than two years (by the middle of 1947) the first step of the program was in full swing. Every new service off of a steel main included an insulating feature ahead of meter, and every order for a new steel main passed over the desk of the corrosion engineer for his designation of location and number of anodes and insulating flanges in the main.

In addition, the corrosion engineer had carried on an intensive program of instruction and training with the line and working organizations of the company to gain support and cooperation. It was believed that the success or failure of the program depended greatly on the degree of appreciation by the line, and the working organization particularly, that corrosion control was fundamental to the performance of their duties.

Accordingly, the corrosion engineer took advantage of every opportunity to explain to these organizations exactly what caused corrosion as it was found in the field, and how he expected, with their help, to prevent it in the future. This paid dividends as evidenced by the

Presented at A.G.A. Distribution, Motor Vehicles and Corrosion Conference, April 12-15, Cincinnati, Ohio.

enthusiasm with which they accepted the new responsibility.

In the years that have elapsed, the company has laid 8,600,000 feet of cathodically protected pipe. Practically all of this was done with magnesium anodes, rectifiers being used only on rare occasions where convenience and economy dictated. The greater portion of these anode installations were made by a contractor. The work load involved with running new services and normal maintenance necessitated contracting the greater portion of new main construction including the installation of cathodic protection facilities.

Coating specifications of the company call for all pipe to be mill coated with a minimum of 3/32 inches of plasticized coal tar reinforced with glass, and all joints and fittings wrapped with a coal tar tape. Visual inspection before the main is lowered into the ditch is all that is required.

Frankly, our engineers are not happy with the disproportionate cost of the coating in the whole protection job, which is about 85 percent. It is their opinion that costs should be nearer 50 percent for coating and 50 percent for cathodic protection. If this proportion were attainable, the total cost for protection should be less.

Coatings available today were designed and are still being sold to accomplish the whole protection job. What is needed in the industry is one that is suitable to use only in conjunction with cathodic protection. Possibly, when cathodic protection becomes more universally accepted as a necessary adjunct to coating for pipe protection, the demand for a coating tailored to fit the job will become great enough to result in the research necessary to find one that is suitable.

Although Northern Illinois Gas Company coating and cathodic installations conform pretty well to general practice, they differ from many on the method of engineering pipe protection on new construction; they do not make field surveys of soil conditions before design. Everything that goes underground is coated, and cathodic facilities are specified by rule of thumb based on experience and knowledge of existing and/or expected conditions. After the job has been completed and has had time to become stabilized, a field check is made and the facilities then corrected if necessary.

This combination of a standard coating and a minimum of field engineering in advance of construction lends itself very well to distribution work where the jobs are small and numerous and may be installed by a contractor or company crews. The evidence of this is that the engineering costs for pipe protection on new construction is less than one-half of one percent.

There are a number of low pressure systems of cast iron construction within the company. These are being expanded, principally for new business loads, with cast iron. Standard practice is to take a service off of cast iron with 1¼ inch steel pipe coated to our standard specification. The service is insulated from the house piping by an insulating union just ahead of the meter and from the main by an insulating street ell off of the street tee screwed into the main. A one-pound magnesium anode is connected to the service between the insulating joints and buried with the pipe. All new and renewed low pressure services have been treated this way since 1949.

Seek correction

It is apparent that cathodic protection is not being applied to the street tee and the insulating street ell. This is an undesirable condition that our engineers have attempted to correct over the years, but have met with no success. The insulating joint should be between the street tee and the cast iron pipe.

A plastic bushing appeared to be the best solution; yet tests of various plastics in the form of a bushing revealed none that could be considered satisfactory because, either the cold flow characteristics were such as to eventually produce a leak, or failures could be expected under strain because of brittleness, or the materials were not suitable for underground service. At present, the research is at a dead end, but it is the general opinion that the plastic industry will come up with a suitable product.

With corrosion protection being applied to new construction in a routine manner, considerable engineering time and manpower was made available to pursue the second step of the program, namely the protection of all of the supply mains in service before 1947. A total of 701 miles of pipe ranging in size from 3 to 16 inches was involved, some of it coated satisfactorily, some with materials of dubious quality, and much of it bare.

Obsolescence because of size had to be considered, a factor that was difficult to resolve because of the rapid expansion of the system. Any supply main that was deemed renewable for size in the near future was placed at the bottom of the list; those considered suitable in size, regardless of age or condition, were reviewed for a possible cathodic application.

To date 360 miles of the original supply mains have been protected. The last job, just completed through this winter, called for 34 rectifier installations on 75 miles of interconnected supply mains. A total of 12 months was required to complete this job, from the time that a cost study was started until the last rectifier was in operation.

It is estimated that the yearly charges including power and operating costs, plus the yearly charges for investment and depreciation reserve, will amount to approximately $13,000, and that something in the neighborhood of $50,000 on repairs will have to be spent in the next ten years to put the system in good shape. It is reasonable to assume that at least the same expenditure on repairs would be made if no cathodic protection was applied. In any case, it should not be charged against the cathodic application.

If this premise is acceptable, then the $13,000 yearly costs are the equivalent of the yearly charges on about $140,000 of investment on replacements for this system. Unquestionably, more replacement than this would be required in the next 20 years, the estimated life of rectifiers and ground bed.

A cost justification on a job of this nature can be much more in detail and far more elaborate; however, the necessity of presenting more figures to justify a job as apparent as this is questionable. Certainly it has not been found necessary to do so in the Northern Illinois Gas Company.

In general, rectifiers have been used on supply mains because they are located in rural areas and because it is believed that better coverage of the mains involved can be obtained. Anodes are utilized on any supply main that, because of its proximity to other utilities, might result in interference if a rectifier were used. As a matter of interest, 110 rectifiers are now in operation in the company, 98 on gas mains and 12 on underground high pressure storage fields and underground propane tanks.

The third step in the original program, the protection by cathodic applica-

(Continued on page 48)

In a period of rising costs, unprecedented utility industry expansion has focussed a new light on the responsibility of the internal auditor

Auditing construction costs

By A. J. GREGORY

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During the past decade industry in general has been expanding its physical facilities at an unprecedented rate. This expansion has taken place during a period of spiraling increases in construction costs.

In the past, many companies have regarded construction as being primarily an engineering problem and have relied on their engineering staffs to control the costs as well as to direct the construction. However, the recent shift in emphasis to the use of cost-plus construction contracts with their atttendant record-keeping requirements has brought about a situation where the cost control and accounting problems can no longer be delegated to engineering personnel. As a result of these factors, the internal auditor has had to assume a new, major responsibility in a field that has, until very recently, been neglected.

Basically the problems involved in auditing construction contracts and in controlling costs are common to all types of industries. The procedures which have been developed in our company can readily be adapted to meet the needs of your own organizations.

Our procedures recognize that there are two basic types of construction contracts: (1) lump-sum contracts and (2) cost-plus contracts. There are several variations of these types of contracts such as lump-sum contracts with escalator clauses, combination contracts where certain types of equipment are purchased at a fixed amount and the installation is performed on a cost-plus basis, and unit price contracts.

The latter actually can be either lump-sum or cost-plus depending upon whether the number of units can be ascertained in advance or controlled by the company, or whether the number of units is indeterminate or controlled by the contractor. Essentially, however, contracts can be considered under the two basic categories and audit procedures should be applied accordingly.

Mr. Gregory has served his company since 1941, is active in national and regional audit groups

Simple lump-sum contracts which provide that specified construction work is to be performed for a fixed stated sum do not require specialized auditing procedures. A determination must be made by the company's engineer-in-charge that the work has been performed in accordance with the specifications of the contract; the auditor is then concerned only that payments authorized by the engineer are made in accordance with the terms of the contract.

This does not mean that these contracts warrant only a superficial review by the auditors. Orders for extra work are frequently issued on this type of contract, and the auditor must scrutinize these carefully to determine that there are no cost-plus features incorporated in them. Occasionally an order for extra work is issued to provide a price adjustment on the original lump sum, rather than to authorize additional work to be done.

Cost-plus contracts, however, present an entirely different problem. Accurate records must be maintained of all materials, labor and equipment used on the job in order that the contractors' billings can be verified. Payments of amounts due to the contractor must be in accordance with the terms of the contracts which, because of the various cost elements involved, are more complicated than the terms of a lump-sum contract. Cost-plus contracts also differ from lump-sum contracts in that the former are not self-policed by the incentive for efficiency.

Under the provisions of a lump-sum contract, the contractor's profit is determined by the difference between his cost and the amount of the contract, which provides an incentive for efficiency. Under the provisions of a cost-plus contract there may actually be an incentive to be inefficient. When the profit fee is determined as a fixed per-

A. T. GARDNER, *CHAIRMAN* · R. E. EBERLE, *VICE-CHAIRMAN*

centage of cost there is an incentive to keep costs at a high level and thereby increase the profit. When the profit fee is fixed, there is an incentive for the contractor to pay labor premiums, and use excess items of rental equipment in an effort to speed up the completion of the job.

Because of these various factors, cost-plus contracts require detailed auditing procedures to determine that the company pays only for labor, materials, and equipment used on the job; to determine that all such items were needed for the job; and to ascertain that the payments are made in accordance with the terms of the contract.

In order to develop an adequate program for auditing charges performed under the provisions of cost-plus contracts, the auditor should become thoroughly familiar with all of the terms of the contract he is going to audit. One of the best ways to do this is to brief each contract. He should then give consideration to the following matters:

1. What procedure has been established for verifying labor, materials, and rental equipment used on the job?
2. What procedure has been established for reporting the results of these verification operations to the accounting department?
3. How does the accounting department use these data to verify the accuracy of the contractor's billings?
4. Are the contractor's billings in accordance with the terms of the contracts?

The manner in which these functions are performed at the operating level will vary considerably from company to company. For example, in some companies verification in the field may be left to the engineering personnel while in other companies the verification of charges may be the responsibility of the accounting department. Regardless of whether the verification operations are performed by engineering or by accounting personnel, it will probably be necessary to set up an auditing program which will operate on a continuous basis rather than on a basis of scheduled periodic audits.

This program will normally include a full-time field auditor for major construction projects, and provide for periodic test checks of minor construction jobs at various locations. The continuous type of audit is highly desirable because of the large amounts involved in construction work and the substantial reduction in these costs which can be realized if verification procedures and contract payment processing procedures are constantly reviewed.

In smaller companies where the size of the auditing staff will not permit this arrangement, the auditor will probably have to be satisfied with test check coverage, giving primary attention to the adequacy with which operating personnel are performing their verification work.

There is much value in the type of audit which is performed before the payment is made to the contractor. This permits the auditor to observe the work being performed in the field and to make such tests as are necessary to determine that the contractor's timekeeping is accurate. It permits the auditor to make his test checks of materials and rental equipment at a time when it is still possible to investigate these matters. Any controversial items can be settled with the contractor before payment is made for them.

Against post-audits

On the other hand, a post-audit based upon a review of the contractor's books and records made at a time subsequent to when the work was done and payment was made is largely time wasted. Such an audit assumes that the contractor's records are correct and reflect what actually took place in the field, which is not necessarily true.

There was a case where a retail establishment made a major addition to its retailing facilities under a cost-plus contract. No auditing work was performed while the work was in progress. At some time subsequent to the final payment, the store sent its auditor to the contractor's office to check his records. It is difficult to imagine what the retail store's management hoped to accomplish by this type of audit.

In order to be of any value the audit must begin at the job site and be performed while the construction work is in progress so that labor, material, and equipment can be checked as they are employed on the job. Trying to determine the correctness of a contractor's billings by reviewing his books is about the same as if the store permitted its merchandise receiving department to accept merchandise on the basis of vendors' delivery tickets without actually counting before placing it in stock.

The basic work performed in auditing construction contracts is done in the field. Let's consider the verification of labor. On major construction jobs, daily unscheduled field checks of all workmen on the job should be required. The primary objective of this check is to determine that all the men appearing on the contractor's time sheet are actually on the job.

When a time clock is used by the contractor, periodic checks should be made to see that each man is clocking only his own time card and that this operation is performed when the men actually report on or off duty. Incidental to this objective, it should be determined that workmen are performing the kind of work corresponding to their labor classification and pay; that the same workmen are not reported by both the prime contractor and sub-contractors; that labor performed on a cost-plus basis is distinguished from that done on a lump-sum basis.

Billing irregularities resulting from the improper accounting of labor charges occur fairly frequently, particularly in those construction projects where it is a common practice to shift workmen between jobs and between contractors. When these shifts occur between cost-plus and lump-sum jobs, billings on a cost-plus basis for lump-sum work are not uncommon. On a few occasions duplicate billings from contractor and sub-contractor have also been encountered.

Another matter relating to labor charges which require verification by the auditor is the amount of overtime spent on the job and the actual need for the contractor to use overtime help. It is usually necessary to make a separate computation of the total labor at regular rates, and the amount of premium pay involved because the latter will normally not bear as high an overhead rate as the regular labor charges.

For example, our company has cost-plus contracts on which the overhead applied to straight time labor runs as high as 62 per cent for profit, insurance, equipment, payroll taxes, etc., while the corresponding premium time is subject only to a 4½ per cent overhead to cover payroll taxes.

In many localities it is an accepted practice to give travel allowances as additional compensation for the time spent and distance traveled between the workmen's homes and the job site. Not only must the auditor verify that the proper

amounts are being paid, but he must also determine that they are paid only to those workmen eligible to receive such payments. It is also necessary to determine that these amounts are given the proper accounting treatment for payroll tax purposes in accordance with recent decisions made by the Bureau of Internal Revenue.

The procedure for verifying materials and rental equipment should include a physical check of all items as they are delivered to the job site. Any differences in the quantity and description of items received from those listed on the vendor's delivery tickets should be followed up promptly. Materials which are returned to the vendors by the contractors should be checked to see that proper credit is obtained. Rental equipment should also be checked when it leaves the job site. In verifying rental equipment it is necessary to determine not only that the equipment is on the job but that it is being used.

We must distinguish between items of material and equipment which are used on cost-plus jobs from those which are used on lump-sum jobs. On cost-plus jobs we must further distinguish between items of equipment which are on a rental basis and those which are furnished under the provisions of a fixed overhead or a lump-sum payment. The rental charge for equipment normally includes an allowance for ordinary maintenance. Therefore, it is necessary to investigate the breakdown of equipment in the field to ascertain whether the failure was due to normal wear or whether it was caused by unusual circumstances which would justify a repair charge.

Other items which may require special treatment include container deposits and state gasoline taxes. A record should be maintained of oil drums and containers on which deposits are recoverable when the containers are returned. In Wisconsin the state tax on gasoline is a highway use tax, and that portion of the tax paid which represents the use of gasoline for non-highway purposes is recoverable. Even at only 4¢ a gallon, this refund can be sizeable on a large construction project. This tax is given comparable treatment by some other states, and the auditor should check into this matter.

The field verification work is important only insofar as the data it provides can be used to verify the accuracy of the contractors' invoices. This means that it is necessary that there be a well established procedure for reporting the results of the field verification operations to the accounting department. This will require a high degree of cooperation between the auditors and the engineers.

In our experience, where the actual verification work is performed by engineering personnel, we have found that, once the initial resistance to new procedures was overcome and the installation of field verification procedures completed, the engineering departments have not resented a continuous audit of their work. In fact, we have had some difficulty in dissuading them from turning over the major part of the verification work to the auditors.

Recording in field

Perhaps a description of the field verification forms used by Wisconsin Electric Power Company and a brief explanation of their use will illustrate how the work performed in the field can be recorded for use by the auditors. Each day the company's field personnel prepare a "Daily Construction Report" for each cost-plus contract.

This report contains a brief description of the work performed by the contractors' workmen and shows a breakdown of their hours by type of labor, by account to be charged, and by premium hours. It also shows the number of travel allowance units by labor classification. All material receiving reports issued during the day which itemize all receipts of materials and equipment are also cross-referenced to this report.

The daily construction reports are based in part upon the contractors' time records and in part upon the results of the verification operations performed by the field personnel. The field auditor makes test-checks of these reports each day, and makes an independent verification on a test-check basis of labor, materials, and equipment by means of which he can verify that the reports are being prepared accurately and that field personnel are performing their work satisfactorily. When he is satisfied that the reports are accurate, they are submitted to the accounting department where they are priced, extended, and footed for subsequent use in verifying the contractors' billings.

When the billings are received from the contractors, the data obtained from the field is used to verify the correctness of the items billed. It is also necessary to determine that the items and amounts billed are in accordance with the terms

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Listing of Common Errors Found in Processing Cost-Plus Construction Contract Billings

Labor

- Incorrect rates
- Incorrect classification
- Incorrect computation of overtime—(double or time-and-a-half)
- Time charged not spent on job
- Extensions
- Taxable status on welfare payments

Material

- Duplicate billing
- Material not received
- Pricing and extensions
- Not required for job (signs, cushions, etc)
- Credit not received for material returned
- Material stolen from job site
- Discounts not allowed

Equipment

- Incorrect rental rates
- Equipment ordered returned but not returned
- Rental charged on break-down time
- Repairs not chargeable
- Extensions
- Unnecessary equipment on job
- Rental equipment versus ownership

Other

- Amounts billed in excess of lump-sum sub-contracts
- All work, as specified in lump-sum sub-contract, not completed
- Excess payroll taxes
- State gas tax not chargeable
- Travel expense not applicable
- Computation of fees, overhead
- Lump-sum work also billed on cost-plus basis
- Excess premium on performance bond

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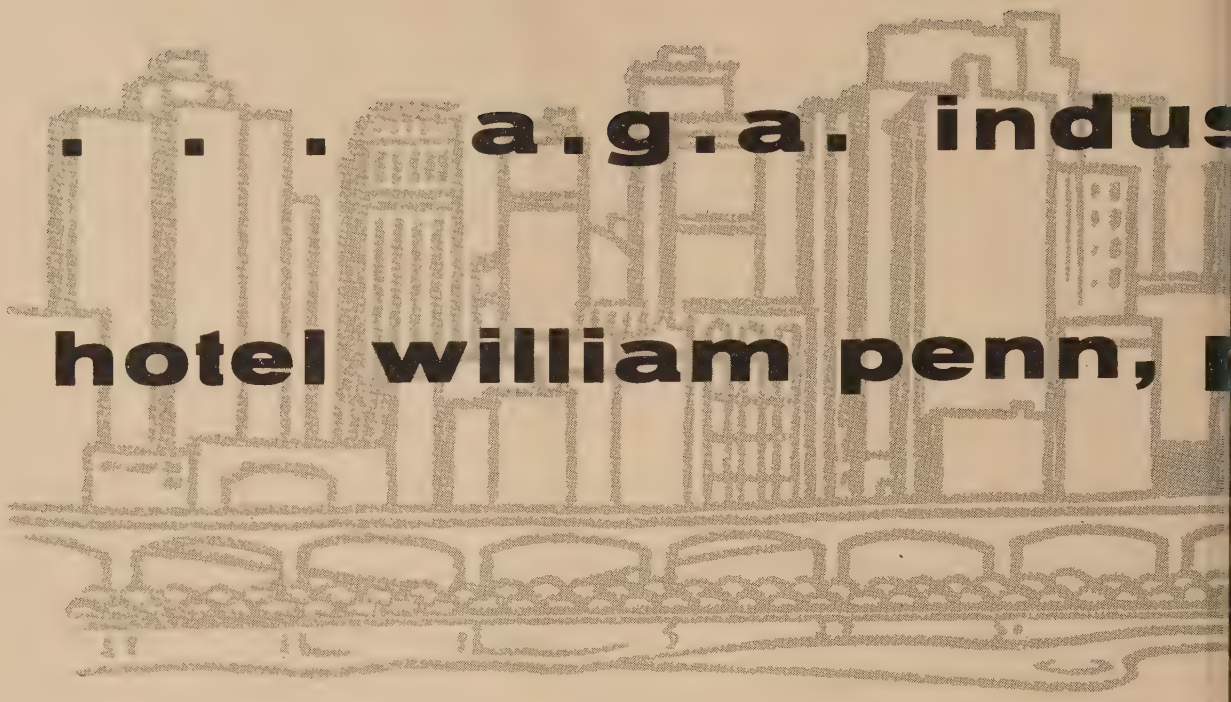


RAY TROWBRIDGE, *CHAIRMAN* • L. E. BIEMILLER, *VICE-CHAIRMAN*

The biennial American Gas Association Industrial Gas School, sponsored by the Industrial and Commercial Gas Section, will be held during the week of May 2, in the Hotel William Penn, Pittsburgh, Pennsylvania.

A five-day course will provide basic training and serve as a refresher in the sale and utilization of gas in industry. The school is open to employees of gas companies, gas equipment manufacturers and dealers, and present or prospective industrial gas customers.

In making up the course of lectures, the Sales Training Committee, with W. E. McWilliams, The Peoples Natural Gas Co., as chairman, drew on the experience gained at previous schools to set up a course of study that will cover as many important subjects as possible within the week.

Starting with the fundamentals of combustion, the first day follows through with a series of lectures on gas-air proportioning and mixing systems including high and low pressure and mechanical systems for mixing. A lecture on types of burners will be demonstrated by a display of burners and equipment. The display is an innovation at this year's school.

The industrial gas engineer has use for a knowledge of heat treating which will be thoroughly covered for steel, copper and brass, aluminum and other non-ferrous metals. The equipment used for this purpose and a lecture on the generation, combustion and results obtained by the use of prepared atmospheres makes up a part of this subject. Relating to it will be a lecture on metal melting.

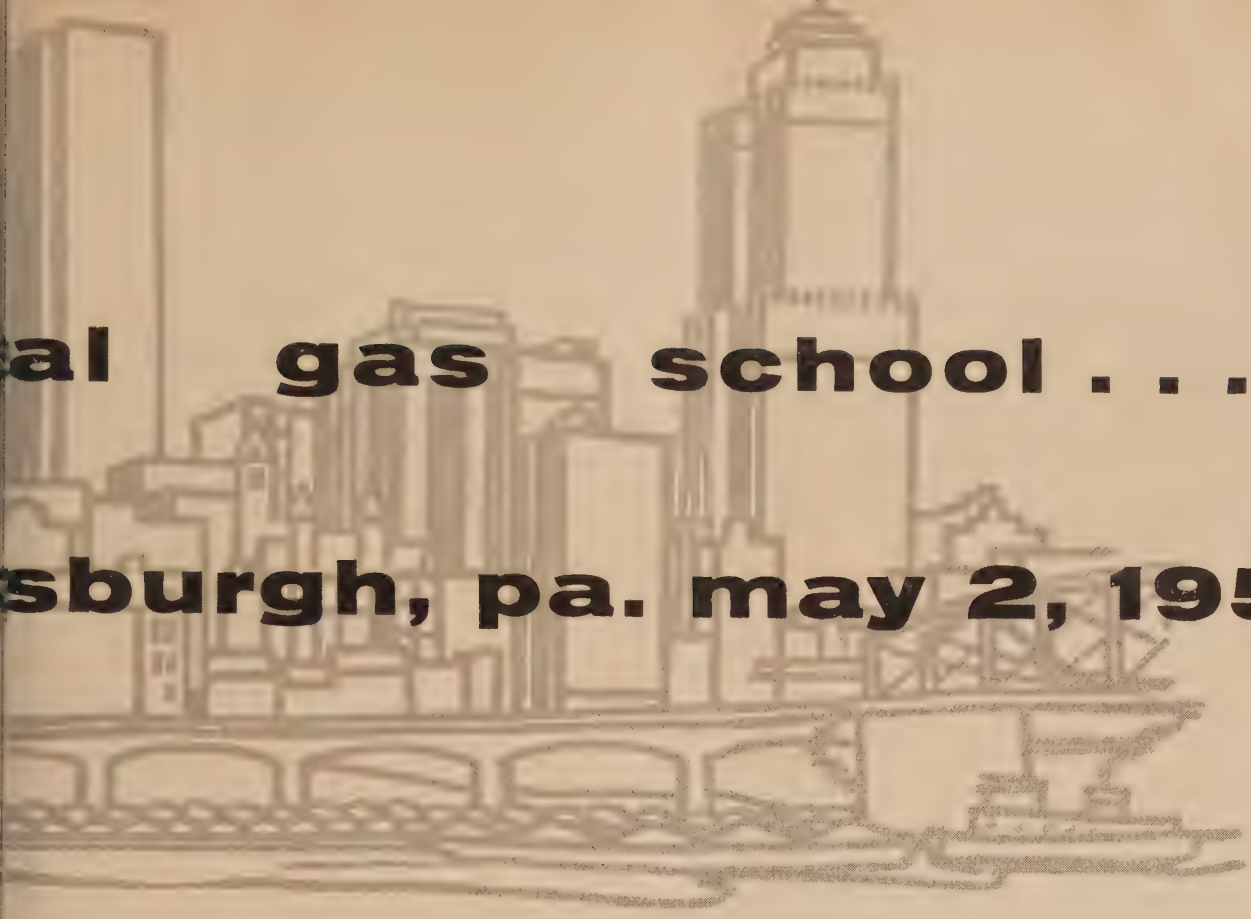
Session on boilers

An entire morning session will be given over to the subject of boilers, with lectures by three outstanding men experienced in this field. Steam requirements for industrial processing by the use of small amounts of steam at medium pressures will be followed by a discussion on boilers used for both heating and processing operations with recommendations for sizing to the job. Another lecture will cover the common types of boilers and the problems which industrial gas engineers will meet when converting them to gas from another fuel.

The afternoon session of this day will be on protective devices and how they operate, together with a discussion of the equipment needed, methods to be followed and codes to be observed for ignition and combustion protection. Also to be discussed is temperature measurement and control which is most important in practically every industrial installation. There will be descriptions of the various temperature measuring systems and equipment, and the automatic control systems used to regulate the temperatures of industrial gas equipment.

There are many highly specialized applications for industrial gas. Each one has its own characteristics which must be well known to the gas engineer. Some of those to be covered in these lectures will be fuel applications in the glass industry, with an outline of practices and techniques used for melting and processing glass. The use of gas in the manufacture of bricks and pottery and the conversion of kilns from coal or oil constitute other lectures at this session.

Other applications which will cross the path of the industrial gas engineer include the heating of liquids in tanks by means of immersion tubes. In addition, tank heating by external means and submerged combustion for water and other solutions will be covered. This



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lecture will be followed by others on the use of refractories and insulation. There will also be a discussion of processes utilizing high temperature indirect heating, setting forth the processes and equipment used, including radiant tubes and muffles of both alloy and refractory.

A most interesting lecture will be given covering the petrochemical industry wherein natural gas is used as a raw material for the manufacture of heavy chemicals, synthetic rubber, plastics, fibers, solvents and fertilizers. What equipment is used in the chemical industry and the various applications of this equipment as related to gas usage will also be discussed in a subsequent lecture.

Another subject on which the gas engineer should be well posted is on oven applications. While many of these are of a comparatively low temperature, the question of application and of temperature control is of prime importance. The principles, practices and designs of ovens will be discussed for industrial drying and finishing operations.

Automatic heating machinery as related to gas for automation will be discussed with a description of the automatic gas heating equipment for this purpose.

The last day of the school will see many industrial gas subjects covered in a series of lectures designed to round out the engineer's knowledge of industrial gas applications. Beginning with the heating operations and equipment necessary for volume food processing. This will be followed by a description of the equipment used and operating data on various types of catalytic fume incineration.

Miscellaneous processing

Miscellaneous small processes utilizing gas fuel will be the topic of a lecture setting forth the applications and equipment used for varnish cooking, battery burning, mold drying, ladle heating and others. The uses of gas and the description of typical applications and equipment for processing textiles and paper will be the final lecture of the morning session.

The closing afternoon session will be slanted toward sales, beginning with a discussion of the factors to be considered in surveying a plant for industrial and commercial fuel uses. In a lecture on meters, regulators and piping there will be presented the recommendations of good practice requirements for the installation of consumer-owned piping on industrial and commercial premises.

After acquiring product knowledge and engineering know-how, successful selling still requires real salesmanship. This closing lecture will be presented by a successful salesman who will leave a stirring message with the students that they can make practical use of in their everyday calls on industrial gas prospects.

An outstanding faculty has been recruited for this 1955 school, each selected for his specialized knowledge of a particular subject. From member gas companies there will be:

J. Paul Jones, Consolidated Gas Electric Light and Power Company of Baltimore.

C. B. Kiehle, Michigan Consolidated Gas Co., Detroit.

E. S. Lanning, Jr., Public Service Electric and Gas Co., Elizabeth, New Jersey.

C. H. Lekberg, Northern Indiana Public Service Co., Hammond.

W. E. McWilliams, The Peoples Natural Gas Co., Pittsburgh.

Ralph L. Melaney, Equitable Gas Co., Pittsburgh. *(Continued on next page)*

Robert A. Modlin, The East Ohio Gas Co., Cleveland.

Stanton T. Olinger, The Cincinnati Gas and Electric Company.

Stewart C. Parker, The Peoples Gas Light and Coke Co., Chicago.

J. V. Richards, New Jersey Natural Gas Co., Asbury Park.

E. V. K. Schutt, Central Hudson Gas & Electric Corp., Newburgh, New York.

H. R. Shailer, Jr., The Connecticut Light & Power Co., Waterbury.

W. S. Sims, Philadelphia Electric Company.

E. L. Spanagel, Rochester (N. Y.) Gas & Electric Corporation.

W. A. Stermer, The Manufacturers Light & Heat Co., Pittsburgh.

G. R. Walton, United Gas Pipe Line Company, Houston.

Carl Wierum, The Brooklyn Union Gas Company.

Manufacturers of equipment are always most generous in giving their time and talent to these schools. Their lecturers for this year will be:

Robert M. Buck, Bryant Industrial Products Corp., Cleveland.

Maurice J. Dewey, Dewey Gas Furnace Co., Detroit.

Herman Gehnrich, Gehnrich & Gehnrich Inc., Woodside, New York.

Erwin E. Hirschberg, Eclipse Fuel Engineering Co., Rockford, Illinois.

C. G. Hobson, Hauck Manufacturing Co., Chicago.

J. Huebler, Surface Combustion Corp., Toledo.

K. R. Knoblauch, Minneapolis-Honeywell Regulator Co., Philadelphia.

A. V. Leudemann, Mears-Kane-Ofeldt, Inc., of S. T. Johnson Co., Forest Hills, New York.

J. D. McCullough, The Babcock & Wilcox Co., New York.

C. A. McFadden, Selas Corporation of America, Philadelphia.

J. J. McGowan, Equipment Engineering Co., Pittsburgh.

C. B. Mershon, Tate-Jones Division,

(Continued on page 49)

I & C men gather to plan future activities

Committee on National Displays

Industrial Processing Committee's Food Processing Subcommittee

AMERICAN GAS ASSOCIATION headquarters in New York was the site of two Industrial and Commercial Gas Section meetings held recently. The Committee on National Displays assigned locations for the 14 cooperating exhibitors in the A. G. A. Combined Commercial Gas Show, National Restaurant Exposition. The Exposition will be held in Chicago, May 9-13. Attending the committee meeting are (reading clockwise): J. L. Gabris, Robertshaw-Fulton Controls Co., Youngwood, Pa.; L. J. Wagner, Consolidated Edison Co. of New York, Inc.; F. J. Drohan, The Cleveland Range Co., New York; R. A. Gregory, Philadelphia Electric Co.; Paul C. Grimes, The G. S. Blodgett Co., Inc., New York; R. E. Crane, chairman, Elizabethtown Consolidated Gas Co., Elizabeth, N. J.; M. A. Combs, A. G. A., New York; R. L. McVicar, Groen Mfg. Co., New York; K. G. Johnston, Detroit-Michigan Stove Co., New York and J. A. Rockefeller, Public Service Electric & Gas Co., Newark, New Jersey.

At the meeting of the Industrial Processing Committee Food Processing Subcommittee, members discussed the possibilities of an Information Letter on garbage cooking. Cooked garbage is widely used for livestock feed. Other topics of interest were: techniques of cooking frozen food as well as cooking or processing food before freezing; spray drying soluble coffee, cream and cereal, powdered milk; potato chip frying; storage of food under inert gas protection. Attending this meeting were (reading clockwise): W. V. Bell, Metropolitan Utilities District, Omaha; E. S. Silven, chairman, Industrial Processing Committee, Providence (R. I.) Gas Co.; R. K. Allwardt, Michigan Consolidated Gas Co., Grand Rapids; J. V. Richards, chairman, New Jersey Natural Gas Co., Asbury Park; M. A. Combs, A. G. A., New York; C. B. Cole, Rochester (N. Y.) Gas & Electric Corp.; E. S. Collins, The Brooklyn Union Gas Co.; H. H. Sapp, Delaware Power & Light Co., Wilmington, and W. G. Wade, Citizens Gas and Coke Utility, Indianapolis.

W. H. DAVIDSON, *CHAIRMAN* • J. H. COLLINS, GROVE LAWRENCE, *VICE-CHAIRMEN*

A.G.A. Distribution Conference hears how Minneapolis Gas uses IBM machines to seek out troublemaking appliances and devices

Service analysis—modern style

By PAUL W. KRAEMER
Manager of Utilization
Minneapolis Gas Company
Minneapolis, Minnesota

There is no better way to insure the increased use of gas appliances than to make sure customers are satisfied with them. Efficient and uninterrupted appliance performance is the most potent sales force any utility can have.

Prompt and courteous appliance service goes a long way in repairing mechanical faults and customers' lost confidence, but it's nothing like the ultimate of the prevention of appliance operating failures. It doesn't even sound practical to build an appliance that would operate perfectly forever, but it is practical to have as few troublemakers on our lines as possible.

The American Gas Association committees and Laboratories, the utility laboratories and service departments, and the appliance and control manufacturers have made a lot of appliance improvements. These groups, though, necessarily lag far behind the field experiences. What is always lacking for them is representative current data about the field performance of appliances. What is sometimes lacking is any reliable field performance data of certain types of appliances or devices.

Manufacturers cannot be expected to change design readily on the present basis of available field experience data. If utilities make available up-to-date comparative tabulations of the causes of trouble from controlling devices, materials, construction, and design of gas appliances, savings to manufacturers and utilities will be great. Even more important, we'll have more and more satisfied customers.

Service analysis and serviceman training is another inseparable combination. By proportioning training time to service requirements and by keeping in step with new problems, we're sure to improve the quality of service.

Of the many ways to conduct service cause analysis, few can be made economically, simply, quickly and yet detailed. To get servicemen's written reports in standard interpretable form is difficult. The manual reading and tabulation of servicemen's written reports requires much time and interpretation by skilled personnel.

In Minneapolis we have been trying a method of service analysis that looks like the answer. We hope that many utilities will start making a service analysis on a similar basis. The more that make such analysis the more will be the advantages to manufacturers and utilities.

While differences in utility service policies may make it difficult to have identical service analysis forms and methods, the system we use is highly flexible and easily adaptable to any change.

The analysis system incorporates the use of IBM mark-sensing cards and machines. In brief, pencil marks on the cards are mechanically sensed, classified, and tabulated, all at high speed. The International Business Machines devices are so widely used by utilities for jobs in billing, accounting, and meter reading that they are nearly standard equipment for utilities. If your company doesn't already have IBM equipment don't think you're barred from this system. We found that the rental of the equipment one would need for a service analysis is nominal.

The standard IBM card becomes the service request order form. The card dimensions are about 7½ in. by 3¼ in. We use the same card or form for the phone clerk to write up incoming orders and for the serviceman to describe the work he did to complete the order. The reverse side of the card is lined for the serviceman to write any detail or comments about the job.

The service analysis is confined to the right-side section of the card which contains nine vertical columns of numbers. These columns are the important supplement to the usual information on the

service card and are the only subject in further reference to the card.

The vertical columns of numbers and assigned designations are the particulars of the analysis. The serviceman marks the description of the service given on each job card by drawing pencil marks in the appropriate spaces.

The completed order or marked cards collected for a day or week or month or any other period of time are processed through IBM machines. These IBM machines sense the marks, sort, and tabulate the marked information at a rate of about 250 cards per minute.

Vertical column 1 is a list of types of gas appliances. The serviceman always marks the appropriate space for the appliance he serviced.

Vertical column 2 is a list of types of services. When the description of the service given is listed in column 2 the serviceman marks the appropriate space and makes no additional marks.

Vertical columns 3, 4, 5 and 6 are a list of the items or parts which are principals in the operation of appliances. These items include all the controlling devices of a gas appliance. The serviceman marks the one item in these 4 columns which because of its operation caused the service call.

When an item in any of these four columns is marked there must be a mark in columns 7 or 8. These columns list the failures which the items of the preceding 4 columns might have. A mark is made in column 7 or 8 to describe the cause of failure of the item.

A card marked correctly can have two possible mark combinations: one mark appears in column 1 and one in column 2, or, one mark appears in column 1, one mark in the combined columns of 3 through 6, and one mark in the combined columns of 7 and 8. With this method of marking the serviceman can describe the cause of any appliance failure with a maximum of three marks.

Vertical column 9 has no permanent number descriptions. We use it to obtain important key information about any particular item or appliance. As a simple example which will also point out the practical application of this whole system, let's follow through on how a new type of pilot burner assembly is affecting service.

We know that a principal cause of clothes dryer service is lint in the primary air openings of pilot burners. Some manufacturers have designed pilots for use in dryers in which primary air must pass by the pilot flame. Through this design the flame is supposed to consume or incinerate foreign matter in the air used for primary aeration of the pilot. We want to know if this incinerator type pilot is effective in the field and should be encouraged or required on all dryers.

We designate arbitrarily for a period of time number "0" in column 9 as the old or conventional type of dryer pilot, and number "1" in column 9 as the new or incinerator type pilot. The serviceman marks the type of pilot in column 9 each time he services a dryer regardless of the type of service he performs.

The analysis of the cards used for the dryer pilot survey would show two important things. It would show from all service calls unrelated to the pilot the proportional number of the two types of pilot assemblies in the field. It would show from a study of pilot service causes the effect of the type of pilot assembly on the amount and kind of pilot service. Knowing the proportion of the types of pilots and the amount of service on each type, it's simple to determine the relative performance of the pilots.

Incinerator pilots

For example, assume the incinerator type pilot accounted for two percent of the pilot complaints. Assume that from service cards unrelated to pilots service we found that 20 percent of the pilots were of the incinerator type. Then, incinerator type pilots would be 10 times less troublesome than others. Information like that for any appliance would be mandate to manufacturers.

We have been using the present card for just the last few months. It replaced a mark-sensing card we designed and used the previous year. The new card, we think, eliminated the many mistakes made in our first trial. We learned that the mark-sense description must be as direct and short as possible. With a great amount of cross reference and sub-descriptive columns the servicemen can describe a service call in different ways or at different lengths. Such non-uniformity of marking gives jumbled tabulation and interpretation.

Our present card is designed so that the serviceman knows how many marks he must make to describe the service. To add to uniformity of marking, the serviceman marks the first listed item or cause that describes the call. The card lists the most restrictive item or cause first.

For example, a pilot generator type safety is a special type of thermocouple safety so the pilot generator type is listed first. We determined by trial marking the listing in the "cause" columns that would be the most descriptive so that the serviceman can mark in that column, too, the first cause that applies.

Tabulation simplicity dictated a card that would limit one mark to any vertical column.

The card should be inclusive enough so that a serviceman can check practically any service calls. If the card is not inclusive enough, lack of descriptive uniformity is invited, and the lack of routine will mean more difficulty in organizing the system.

Simplicity of marking and tabulation requires the elimination of many sub-descriptive items that may be interesting but not essential for the service cause explanation. For example, is it necessary to mark whether a water heater is a storage heater or a side arm heater? We had such sub-breakdowns on our first card and eliminated it on this one. Is it worthwhile having a marking space to tell whether a Servel has an ice-maker or would that distinction be obvious from the service cause marks?

The card must be limited to the cause of the service not the service given or the symptoms of the cause. By limiting to cause one adds to marking uniformity and tells what's going wrong with appliances or controls. For example, such descriptions as "spilling draft hood" or "noisy" if included on a card would tell nothing but that a symptom of trouble exists. In addition the card keeps reminding the serviceman that good service means correcting the cause of trouble.

The reading and tabulation of data is a machine operation. The method of tabulation is a matter of choice within limitations of card layout.

Our present procedure is to have our tabulating department mark-sense and record the service orders daily. After a two to four week period our tabulating department makes a machine tabulation of the information collected. This procedure lets us keep our service file up to date during the time the information is being collected.

Pilot burners are the major source of service on all appliances. At the present time we are conducting a pilot type and service study with the aid of column 9. We expect the results will be a guide for future pilot burner design. The results will be given to manufacturers interested.

Prepare spirited sessions for utility sales forces at A.G.A.-sponsored meetings in Pittsburgh and Chicago

Plan two spring sales conferences

Eastern Natural

Details are rapidly being completed for the next Eastern Natural Gas Regional Sales Conference sponsored by A.G.A. Residential Gas Section, which will be held at the William Penn Hotel, Pittsburgh, Pa., on Monday and Tuesday, April 18 and 19, 1955. This Conference, which is well-attended by gas company sales executives and manufacturer representatives from the seven states served by the Conference, will be under the direction of Thomas H. Evans, vice-president in charge of sales, Equitable Gas Company, Pittsburgh.

The 1955 program will feature a joint presentation by Duncan C. Menzies, the dynamic and aggressive new president of Servel Inc., and Louis Ruthenburg, chairman of the board of Servel, relative to Servel's plans and programs as they affect the production, distribution, and promotion of the gas refrigerator and gas year round air conditioning. The title of their presentation is "Partners in Progress".

Clifford E. Hall, manager of utility sales, The Coleman Co., Wichita, Kan., will discuss the various developments under way at Coleman on gas year round air conditioning, under the title, "A Look At The Future".

Albert P. MacNamee, manager of sales development, *McCall's* magazine, who regularly contacts dealers and distributors at the national level will discuss the importance of the dealer in the scheme of appliance merchandising, what the dealer is thinking about, and what the gas industry must do to increase gas appliance sales through dealers. Mr. MacNamee's presentation is entitled, "What About The Dealer?"

S. F. Wikstrom, promotion manager of A. G. A., will summarize the very important 1955 "Mrs. America" program.

Directing Eastern Natural Gas Sales Conference activities at Pittsburgh will be T. H. Evans, Equitable Gas sales vice-president

Fred W. Dopke, Indiana Gas and Water Co., will act as chairman at annual Mid-West Regional Sales Conference in Chicago

C. S. Stackpole, general sales manager of the heating and cooling division of the Union Asbestos & Rubber Co., Chicago, Ill., will make one of his usual dynamic presentations titled, "Sales Ho!"

Monday afternoon will be devoted to a series of round-table discussions which were so effective and well-attended at last year's conference. Included are discussion on "Service and Sales" led by R. W. Ramsdell, vice-president, The East Ohio Gas Co., Cleveland, Ohio; a panel on the "Gas Clothes Dryer", led by Dave C. McDermand, sales promotion manager of the Hamilton Manufacturing Co., Two Rivers, Wis.; and a third panel "Home Service and the Gas Incinerator", led by Miss Flora G. Dowler, home economics director, The Manufacturers Light & Heat Company, Pittsburgh, Pennsylvania.

Tuesday's session will be under the direction of F. W. Batten, executive vice-president of The Manufacturers Light & Heat Company, Pittsburgh, as chairman. J. N. Crawford, assistant to the president, Affiliated Gas Equipment, Inc., Cleveland, Ohio, will discuss the gas house heating situation under the theme, "What's The Score?"

G. M. Rohde, district sales manager for the Hardwick Stove Co., and distributor of Ruud gas water heaters, will address the Conference relative to the necessity of adequately sizing gas water heaters as a sales tool. Tuesday morning's session will be completed by a presentation, "What's New In Gas Ranges", which will include "The Built-In Gas Range" by E. W. Westland, manager of built-in range sales, Caloric Appliance Corp., Philadelphia, Pa.;

W. H. KURDELSKI, *CHAIRMAN* • B. H. WITTMANN, *VICE-CHAIRMAN*

"A. G. A. Developments" by E. L. Hall, director of the A. G. A. Laboratories, Cleveland, Ohio, and "Automatic Top Burner Control" by R. H. Taylor, president of the Florence Stove Co., Chicago, Illinois.

The Tuesday afternoon session will feature a discussion on the importance of market research as a sales tool under the title, "Market Knowledge Pays Off", by Frank H. Trembly, director of sales, Philadelphia Gas Works, Division of U.G.I., Philadelphia. The guest speaker will be A. C. Fox, Pittsburgh manager of the Fuller Brush Co., who will discuss the sales and promotional techniques used by his company in achieving an enviable sales record in the sale of brushes to the Amerian homemaker, under the title "On The Dotted Line".

The two annual conference luncheons are scheduled for each day, beginning at 12:30 p.m., and the Manufacturers' Friendship Room which is always a feature of the conference, will be held on Tuesday afternoon beginning at 3:30 p.m.

This year your Council in charge of the conference has arranged a program which is one of the best,—make your plans to attend this conference now!

Expect record attendance at Mid-west sales meeting

A record attendance is expected at the next Annual Mid-West Regional Gas Sales Conference, to be held at the Edgewater Beach Hotel, Chicago, Ill., April 25-27, 1955.

This Conference, sponsored by A. G. A. Residential Gas Section, has grown over the years to be one of the largest meetings held in the gas industry. This year will again feature an array of interesting and informative speakers who will discuss many of the major sales problems now confronting the industry, and their solutions to such problems.

The 1955 Conference is under the direction of Fred W. Dopke of the Indiana Gas and Water Co., Inc., Indianapolis, Ind., as chairman. Says Mr. Dopke, "All of us will agree that business in general is becoming a more and more complex operation. While sharing this over-all opinion as a sales manager, I venture to suggest the necessity of overcoming our own reluctance to reorient our sales philosophy and methods to meet this rapidly changing marketing climate. The Mid-West Regional Gas Sales Council had this in mind in outlining the program this year."

Monday morning's session, following Mr. Dopke's address, will feature a presentation by a nationally-known gas company sales executive devoted to a review of the progress and development of the gas industry, and his recommendations as to what the gas industry must do to maintain and increase its position in the residential markets, which are subject to ever-increasing competitive efforts.

Duncan C. Menzies, the competent and hard-working new president of Servel Inc., and Louis Ruthenburg, chairman of the board of Servel, will team up in an important and informative presentation devoted to Servel's plans and programs regarding the production, distribution, promotion and sale of gas year-round air conditioning and the gas refrigerator.

Monday afternoon's program will be highlighted by a repeat performance by Dr. Edward McFaul of Evanston, Ill., who several years ago enthralled the meeting with his magnificent address, "So You Think You're Slipping!"

To the end of bringing to light the true situation regarding the electric heat pump, solar heating and modular electric heating which has been the subject of much publicity and propaganda, the Council has secured Dr. Seichi Konzo, professor of ventilating and heating engineering of the University of Illinois, to document the status of this competitive equipment.

With women participating in the decisions involving the sale of a large percentage of household appliances, it is only natural that we should get the low-down on the woman's viewpoint as to how to sell to women. This important factor of business will be covered by Miss Edith Ramsey, the well-informed home equipment editor of *American Home* magazine, under the title "Selling The Weaker Sex".

Another very important segment in our sales and promotional activities designed to increase gas sales is the medium of national advertising. C. Fred Westin, assistant director of advertising, Public Service Electric & Gas Co., Newark, N. J., and a member of the A. G. A. National Advertising Committee and president of the Public Utilities Advertising Association, is a recognized authority on advertising who will discuss this subject from the standpoint of ways and means of capitalizing on national advertising at the local level.

An executive of Swift & Co., one of the largest of the nation's meat packers, will deliver a sales-themed inspirational address to kick-off the Tuesday afternoon session, to be followed by F. W. Williams, secretary of the A. G. A. Residential Gas Section, who will discuss markets, competitive efforts for the market, and a review of A. G. A. activities designed to assist its member companies to increase gas sales.

A dramatic and convincing demonstration featuring a gas range equipped with the nickel burner versus an electric range, will be conducted by representatives of the home service department of The Gas Service Co., Kansas City, Missouri. An effort will be made to have one of the gas industry's most forceful platform experts introduce this feature of the session.

With customer demand for built-in equipment reaching new highs, it is only natural that the program include a speaker on the built-in gas range which is a new sales tool for use in increasing gas range sales. E. W. Westland, manager of built-in range sales, Caloric Appliance Corp., Philadelphia, Pa., will open Wednesday's session with a presentation entitled, "Selling The Built-In Gas Range".

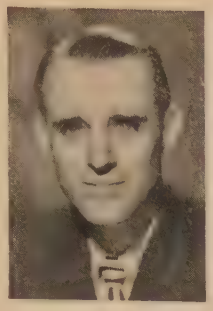
The modern gas incinerator is one of seven residential appliances which the gas industry has to sell in the home, and although gas incinerator sales are increasing, much remains to be done. Ernie Olsen, sales manager of Bowser Inc., will discuss ways and means of still further increasing gas incinerator sales, and he will be assisted in his presentation by a representative of a gas utility company which is doing an outstanding job in the promotion of this lucrative service.

Wednesday morning's session will be completed with an inspirational address by the Reverend Kermit Long.

Conference social activities will include the annual dinner sponsored through the courtesy of the gas appliance manufacturers, in addition to a special luncheon to be held for the ladies attending the conference.

Southerners to hold annual meeting in New Orleans

NEW ORLEANS, the home town of hospitality, will welcome the Southern Gas Association's forty-seventh annual convention, on May 16, 17 and 18. More than two thousand delegates and visitors are expected to register for three days of education, inspiration and entertainment.



Thad W. Rowden Jr.

There will be addresses by nationally known leaders in business and economics, reports on various phases of the natural gas industry by experts from many sections, and a peek at the future through some reliable crystal balls.

Gas appliance manufacturers, for their annual Friendship Hour, have chartered the S.S. *President* for an evening cruise up and down the Mississippi River, and a unique feature for the ladies will be luncheon on May 17, at Diamond Jim's La Louisiana Restaurant.

Thad W. Rowden, Jr. of Arkansas Western Gas Company, Fayetteville, Arkansas is this year's general convention chairman. Mr. Rowden's general vice-chairmen are L. A. Bickel, Lone Star Gas Company, Dallas, and Ernest G. Hotze of Clark Bros. division of Dresser Operations, Houston.

Other committee chairmen assisting Mr. Rowden are Donald W. Jenks, Houston Natural Gas Corp., Houston, attendance; L. H. Ernst of Caloric Appliance Corp., Atlanta, Ga., Friendship Hour; W. M. Nunn, Sr., of New Orleans Public Service Inc., local arrangements; J. T. McKay of New Orleans Public Service Inc., registration, and John C. Deupree of Oklahoma Natural Gas Co., Tulsa, publicity. Mrs. J. H. Collins, Sr., wife of the SGA's first vice-president, is chairman of entertainment for the ladies.

C. B. Wilson of New Orleans Public Service Inc., housing chairman, urged that hotel reservation requests be made right away, not to him, but to the SGA Housing Committee, 1932 Life of America Building, Dallas 2, Texas.

LP-Gas program stepped up at March meeting in Florida

PLANS TO STEP up sharply the already substantial publicity phase of the National LP-Gas Promotional Program were approved at a series of meetings held March 2-4 in Miami, Florida.

The executive, copy, public relations and advisory committees of the National Council for LP-Gas Promotion convened separately and jointly, winding up their sessions with a luncheon in honor of members of the Gas Institute of Greater Miami.

To implement the expanded public relations activity, the LP-Gas Information Service was authorized to add a new member to its staff. Launching of a quarterly informational bulletin to be known as the "LP-Gas Promotion News" was also approved. This publication, which will go to thousands of members and non-members, will contain late news about the promotional program, helpful hints for dealers to facilitate their tie-in with the national effort and public relations notes.

Taking a prominent part in the joint sessions were James E. Pew, Sun Oil Co., Philadelphia, council president; Kenneth R. D. Wolfe, Fisher Governor Co., Marshalltown, Iowa, chairman of the executive committee; William R. Lund, Warren Petroleum Corp., Tulsa, chairman of the copy committee; E. Carl Sorby, vice-president, Geo. D. Roper Corp., Rockford, Ill., chairman of the public relations committee, and Lee A. Brand, Empire Stove Co., Belleville, Ill., chairman of the advisory committee.

Following a report by Chairman Sorby, Robert E. Borden, director of the LP-Gas Information Service, and George J. Schulte, Jr., assistant director, showed the promotional group examples of the many facets of the publicity campaign the news disseminating agency has been carrying on since the inception of the industry program.

National and regional promotional problems of mutual interest were discussed at the joint luncheon held with the Gas Institute of Greater Miami, and at a round-table conference which followed. Speakers included Mr. Pew and Mr. Wolfe for the council; C. R. Vetter, Southeastern Natural Gas Corp., president of the institute; L. R. Chandler, Gas-Oil Products, Inc., chairman of its advertising committee; Sam Coolik, Public Gas Co.; J. A. Garfield, Miami Bottled Gas Co.; J. E. Fussell, institute director; Peter Peterson, vice-president, McCann-Erickson; William Bell, account executive, McCann-Erickson, and H. V. Swenson, vice-president, Cramer-Krasselt Co.

Colorado company plans

A CONSTRUCTION BUDGET of more than $35,000,000 has been approved by the board of directors of Colorado Interstate Gas Company for 1955.

Highlighting the proposed construction during the year is the 365-mile natural gas pipeline from Rock Springs, Wyo., to Denver. Construction of this line is contingent upon start of construction of the Pacific Northwest Pipeline Corporation's line which will extend from the San Juan Basin to the northwestern section of the United States. The 22-inch line and allied facilities are estimated to cost approximately $24,600,000.

The Colorado Interstate line will connect with Pacific Northwest's line at a point near Rock Springs and will have an initial transmission capacity of 100,000,000 cubic feet of gas daily for the Denver market area.

Approximately $3,000,000 has been budgeted for drilling gas wells of both a development and exploratory nature. Another $4,200,000 has been approved to cover the estimated cost of extension of Colorado Interstate's gas gathering facilities in four natural gas fields.

The remainder of the budget is devoted to general additions to the company's system and properties.

Virginia utility builds new pipeline

G. Frank Stinnett, general manager, inspects fabrication of the main line valve setting of Shenandoah Gas Company's system at Stephens City, Virginia. The transmission line, which was placed in operation on March 30, connects Martinsburg, W. Va. to the Atlantic Seaboard line at Middletown, Virginia

Gas companies report important advances during 1954

SPRINGTIME is the time for flowers, balmy breezes and—annual reports! Utility and pipeline companies from all sections of the country are reporting on 1954 earnings, profits and accomplishments.

• **Alabama Gas Corporation** reports improved earnings and an increase in its common dividend rate. The improvement was due principally to the addition of 13,000 new customers. Net income for 1954 was equal to $1.74 per share on 925,317 common shares, compared with $1.33 a share earned in 1953 on 841,198 shares.

• **Columbia Gas System, Inc.,** reports that although earnings for the year improved, they were still below a satisfactory level, amounting to only 5.3 percent return on consolidated capital. Net income for 1954 was $19,550,000, including $1,591,000 in income listed as contingent pending settlement of rate proceedings involving several system companies, their customers and suppliers. Gas sales and gross revenues reached an all-time high. Sales were 487 billion cubic feet, a gain of seven percent over 1953. Gross revenues climbed 14 percent to $260,365,000, an increase of $32,321,000 over 1953.

• **Connecticut Light and Power Company** reports operating revenues of $59,700,000, a new high—of which gas revenues made up about 13 percent. The report discloses that the company's stockholders now total 44,150, an increase of 5,155 over 1953.

• Establishment of new records in all phases of its operations are announced by **The Dayton (Ohio) Power and Light Company.** The company added 7,500 new gas customers and over 16,000 customers for gas space heating. Nearly 115 miles of new gas mains were laid, making a total of 1,666 miles of main.

• **The Long Island Lighting Co.,** Mineola, added 14,187 gas customers, to bring the total to 271,262 gas customers. Revenues during 1954 increased 16½ percent to a level of $77,455,000.

• **Panhandle Eastern Pipe Line Company** announces that its gas reserves are at a new high and that sales capacity of the pipeline continues to increase, and that the decision of the Federal Power Commission in the company's rate case is expected to have a favorable effect on future earnings. New earnings amounted to $14,892,246 or $4.26 per common share.

• **The Peoples Gas Light and Coke Co.,** Chicago, and subsidiary companies, report a consolidated net income of $12,139,482 or $10.85 per share. This compared with earnings of $11,422,975 or $10.21 per share in 1953. Plans for 1955 include expansion of the Herscher storage field facilities which will require an estimated $7,500,000.

• **Philadelphia Electric Company** produced and delivered more gas in 1954 than in any other year in its history. Gas sales are expected to increase 39 percent in the next five years.

• **Niagara Mohawk Power Corp.,** earnings increased to $2.11 per common share in 1953. Gas revenues were up in all classes of service, especially heating sales. Natural gas facilities were extended to additional areas and customers.

Annual Ebasco safety seminar in progress at NYU

SEVENTEEN safety and operating executives are taking part in the current Ebasco Seminar in Public Utility Safety, which began February 28. The present group, which includes representatives of utility companies in Greece, Canada, Mexico, Colombia and Chile as well as the United States, marks a total of 125 representatives who have participated in the intensive training programs, presented annually by Ebasco Services Incorporated in cooperation with New York University.

Distribution engineers, construction superintendents, division managers and other operating executives and supervisors have equalled safety and personnel representatives in attendance at the seminar sessions.

The seminar program is designed to provide comprehensive training in the methods and materials of accident prevention, with specific application to utility safety problems. Lecture and discussion classes include such subjects as improved human relations, training techniques, effective speaking, and analyses of successful safety programs. Field trips are also made to local installations of interest, including the new central operating headquarters of Long Island Lighting Co.; the test bureau and safety department of Consolidated Edison Co.; the driver training and safety headquarters of the First Army on Governors Island, and the Newark plant and demonstration area of C-O-Two Fire Equipment Company.

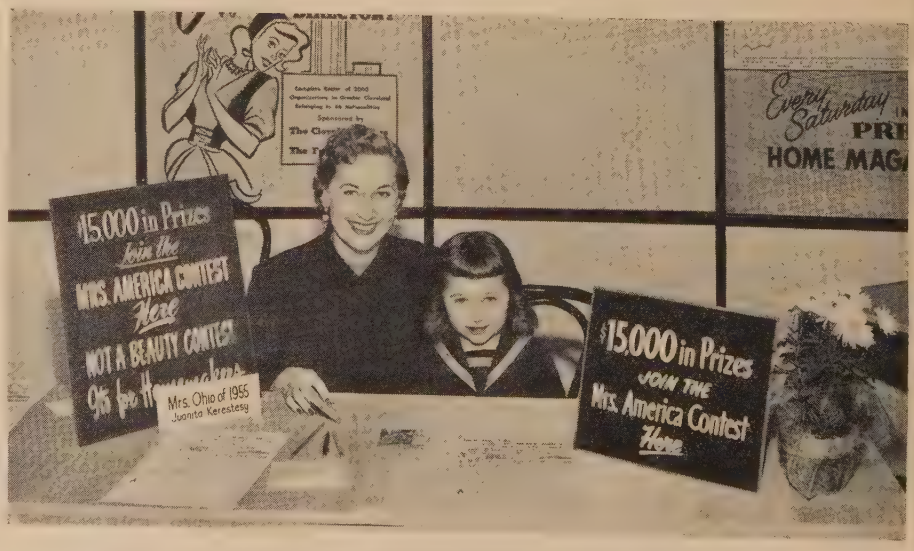
Throughout the program, the companywide responsibility for accident prevention is stressed, with emphasis not only on personal safety, but on the elimination of costly operating errors as well. Also outlined by various seminar speakers are the wide range benefits of effective safety programs, reaching as they do into all areas of utility operation, both inside and outside the company.

Announce course

THE SOUTHWESTERN Gas Measurement Short Course will be held on the North Campus at the University of Oklahoma on April 19, 20 and 21. The 1955 course will be noteworthy because this is the 30th year since it was founded. During this time, the enrollment for the three-day course has grown from 60 persons at the first meeting to over a thousand in 1954. Approximately 19,000 persons have received special instruction offered through the years.

The program consists of one general session and twenty-one classroom periods, with each period having seven classes running concurrently. The 91 classroom instructors will be drawn from educational institutions, industries, and manufacturers. The principal address will be given by James E. Allison, president of the Warren Petroleum Corporation. Dr. G. L. Cross, president of the University of Oklahoma, and Dean W. H. Carson, of the university's College of Engineering, also will be featured speakers. Thirty companies will have exhibits on display, and a proceedings of the course will be published.

Mrs. Ohio reigns at Cleveland home show



Juanita Kerestesy, 1955 Mrs. Ohio, and her small daughter attract many of the 200,000 visitors to the newspaper booth of the 10-day Home and Flower Show, where homemakers can enroll in Mrs. America contest. The Cleveland Press and The East Ohio Gas Co. are sponsoring the Cleveland contest

Equitable budgets nine million dollars

EQUITABLE GAS Company plans to spend over $9 million in 1955 for improvement and expansion of its system in Pennsylvania, West Virginia and Kentucky.

The $9 million provides $2,700,000 for production system improvements; $901,000 for gas storage projects; $680,000 for expansion of transmission facilities, and $3,087,000 for improvement of the distribution system.

In addition, $1,300,000 has been appropriated for construction of a 12" diameter pipeline to carry natural gas to Equitable's subsidiary, Kentucky Hydrocarbon Company. Kentucky Hydrocarbon will eventually produce approximately 10 million cubic feet per day of ethane, propane, butane and natural gasoline, using raw natural gas as a source material.

Mrs. Washington welcomes display visitors

Hostess at Seattle Gas Company's 1955 Home Show Booth is winner of last year's Mrs. Washington contest, Mrs. Robert H. Tate. Display featured projected coming of natural gas to Pacific Northwest, as well as prizes for next Mrs. Washington. Among prizes are (l. to r.): Wedgewood deluxe gas range; Permaglas automatic gas water heater; Rheem-Wedgewood gas dryer; model airplane, representing round-trip flight to Florida for two; aluminum cooking utensils, $100 worth of groceries and Mrs. Washington trophy. Also displayed were trophies to be given to winners of 22 district competitions

North Florida Mrs. America judges meet

Judges for North Florida Mrs. America contest, to be sponsored by South Atlantic Gas Co., April 6-7, meet in Orlando. Seated, l. to r.: Mrs. J. R. Davis, civic leader and Mrs. W. E. Henry, Orange County School Lunchrooms. Standing: Col. James Lansing, Orlando Air Base; Howard Ferris, South Atlantic Gas Co.; Mrs. Kitty Magruder, Orlando Sentinel Star, and Dr. E. J. Pendergrass, First Methodist Church

Journal has new owner

THE 96-YEAR-OLD *American Gas Journal*, monthly publication of the gas utility industry, has been purchased by The Petroleum Engineer Publishing Co., Dallas.

"Since 1859, when the *American Gas Journal* started chronicling the events and technologies of the gas utility industry, it has acquired the stature of a respected industry institution. In the light of its history, we assume publication of the *American Gas Journal* with a distinct sense of responsibility, and editorial standards that will continue to widen its range of values to the industry," said Joe B. Woods, president of The Petroleum Engineer Publishing Company.

Hilding H. Carlson, who was editor, has been appointed editorial director by the new management. An enlarged editorial staff with offices in New York, Dallas and Los Angeles has been assigned to the publication, which is the oldest in the oil and gas industries.

"Current industrial advances are being applied by the gas companies at an extremely rapid rate to assure public service with ever-improving efficiency," commented Mr. Carlson. "The new *American Gas Journal* is rededicated to presenting authoritative information on management, operations and sales, in the high interest of the gas utility companies. This follows the principles established on the editorial page of the first issue, July 1, 1859."

The Petroleum Engineer is published in four separate editions. Acquisition of *American Gas Journal* completes the publishing company's editorial coverage of operations from the exploration shot hole to the oven burner.

An advertising staff, headed by Abbott Sparks, vice-president, has been assigned to the *American Gas Journal* with offices in Dallas, Houston, Chicago, Cleveland, New York and Los Angeles.

Commercial gas stars

THE GAS INDUSTRY is launching a power-packed advertising promotion campaign in the May issue of *Restaurant Management* magazine. The program is designed to sell commercial gas equipment and to hold and expand the commercial gas load.

Any company associated directly by equipment or indirectly by product or service with the gas industry was urged to place advertising in the section, and by March 15, manufacturers of gas equipment had purchased 27 pages of space, and American Gas Association had purchased six. Before the final date, March 28, it was estimated that about 40 pages of gas appliance advertising would be included in the issue.

In addition, the May issue of *Restaurant Management* will feature editorially the many uses of commercial gas equipment, including broiling, baking, roasting, frying, water heating, surface cooking, storage and serving and counter appliances.

A complete reprint of the *Restaurant Management* advertising and editorial section will be available at the Annual Restaurant Show in Chicago, May 9-13. Reprints of the section will also be made available to utilities for direct distribution to commercial consumers.

A.G.A. announces new publications during March

LISTED below are publications released during March, and up to closing time of this issue of the MONTHLY. Information in parentheses indicates audiences for which each publication is aimed.

ACCOUNTING

• **Compendium Committee Report, 1954**—Annotated bibliography of Accounting Section material, 1938-1952 (for accountants). H. F. Quad is the author. Prices: for members, $1.00; for non-members, $2.00. Publication can be obtained from A. G. A. Headquarters, New York City.

OPERATING

• **Compilation of Typical Storage Lease Forms Used in Underground Gas Storage Operations** (for individuals or companies engaged in underground gas storage operations). Compiled by Subcommittee on Storage Lease Forms of Committee on Underground Storage, Operating Section. Copies of the compilation are available *on loan* from the assistant secretary of the Operating Section.

SAFETY

• **How Injuries to Gas Men Might Be Avoided** (for safety men in the gas industry). Prepared by the Accident Prevention Committee, and available from American Gas Association Headquarters, ten cents a copy.

STATISTICAL

• **Monthly Bulletin of Utility Gas Sales—January 1955** (for gas companies, financial houses and security analysts). Prepared by the Bureau of Statistics, free.

• **Quarterly Report of Utility Gas Sales**—Fourth Quarter, 1954 (for gas companies, financial houses, market researchers, etc.). Prepared by and available from A. G. A. Bureau of Statistics, free.

Test city program considered by SGA sales executives

A DISCUSSION of the advisability of Southern Gas Association establishing a test city program supplementing and expanding that of American Gas Association, was of primary importance on the agenda of the annual SGA Sales Executives Conference. The conference was held on February 24 and 25 in New Orleans, with J. J. Sheehan, Piedmont Natural Gas Co., incoming chairman of the SGA sales section, presiding.

Speaking on "What Our Test City Has Done for Us" were Hansell Hillyer, South Atlantic Gas Co., Allen D. Schrodt, Southern Union Gas Co., and R. L. Stephenson, Lone Star Gas Company. John Boland of Fuller & Smith & Ross Inc., presented "The Test City Before and After". Further plans for the test city program will be formulated before the forthcoming SGA convention on May 16.

Another highlight was a talk by F. B. Jones, Equitable Gas Co., on market research.

Consumers Power opens new meter service center

MORE than 3,000 residents of the Jackson, Mich., area toured Consumers Power Company's new General Meter Building, during two days of an open house held recently.

The new building, which centralizes the company's gas and electric meter test and repair activity for its 64-county service area, received guests for seven hours one afternoon and evening, and four hours the following afternoon.

Visitors saw the mass-production, assembly-line techniques for repair and testing which Consumers has installed in the new structure, which covers some 42,000 square feet.

Prior to the public reception, some 1,500 company employees visited the building on Employees Night, to see how gas and electric meters are received, cleaned, inspected, repaired, tested, and shipped.

About 100 persons are employed in the building in the various departments, which include a records office for all 1,225,000 of the company's gas and electric meters and a special room for testing equipment used by electric linemen.

The building occupies part of a 71-acre site which Consumers purchased to expand its general headquarters facilities, at present located in Jackson.

Recently, the company announced it will construct a large office building on the site to relieve congestion in its downtown buildings. The new building is to be completed within the next two years.

Six manufacturers join GAMA

SIX new members have been accepted by the Gas Appliance Manufacturers Association according to Managing Director H. Leigh Whitelaw.

Three of the new members make gas water heaters, one produces gas furnaces, the fifth manufactures room heaters and the sixth makes commercial ranges. Membership in specific divisions will be decided at a later date by vote of the members of each division.

The water heater manufacturers and their delegates are: Superbo Manufacturing Co., Los Angeles—delegate, K. L. Comfort, president; Thermogray, Jefferson, Iowa—delegate, Pence H. Miller, secretary-treasurer; Westomatic Water Heater Manufacturing Co., Citra, Fla.—delegate, K. A. Prescher, company owner.

The commercial range manufacturer is Garland Commercial Ranges, Ltd., a subsidiary of the Detroit-Michigan Stove Co., Detroit. Its delegate is F. A. Kaiser, vice-president and treasurer. The gas furnace maker is Steel City Furnace Corp., Springdale, Pa.—delegate, Fred H. Hanke, engineer. The room heater manufacturer is J. F. Winchel Co., Cleveland, Ohio—delegate, J. F. Winchel, president.

Brooklyn Borough drivers win safety plaudits

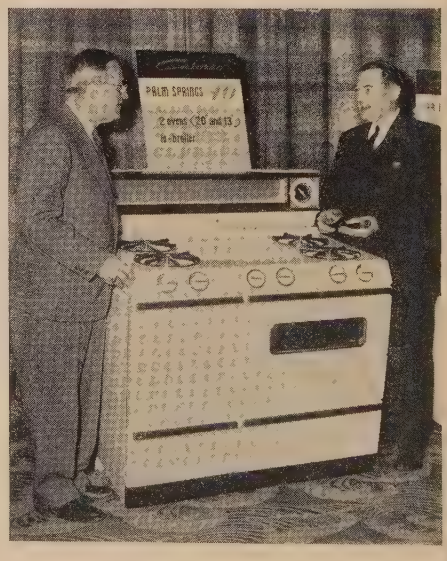
CITING THEIR ACHIEVEMENT as proof that accidents are preventable, Norman Olman, director of the Street and Highway Division of the Greater New York Safety Council, praised 94 drivers of Brooklyn Borough Gas Company cars. The drivers' 1954 safe driving record is one of the best in the nation.

Mr. Olman was the principal speaker at a ceremony in which National Safety Council safe driver pins and certificates were received by 68 regular company drivers and company bonus awards were presented to all 94 drivers of company cars, including both regular and occasional drivers.

The drivers have kept the preventable accident rate to a record low of five accidents for the year, compared with an average rate of 13 accidents a year for the previous five years.

Walter M. Jeffords, Jr., president of the utility, made the presentations.

Spotlight on burners



Newly designed burners in the 1955 line of Caloric gas ranges are examined by Earl H. Eacker (r.), president of Boston Consolidated Gas Co., and Roy E. Wright, director of gas sales, NEGEA, Cambridge, Mass., at initial showing of line for leading utility executives in the Boston area

Highlights of cases before Federal Power Commission

Bureau of Statistics, American Gas Association

Rate cases

● **Colorado Interstate Gas Company**: The FPC has issued an order making effective as of February 1 a suspended $10.3 million wholesale gas rate increase by Colorado Interstate. Colorado Interstate's higher rates will affect 12 wholesale customers in Colorado and Wyoming.

● **Colorado-Wyoming Gas Company**: The FPC has permitted Colorado-Wyoming to put into effect a $1.1 million wholesale gas rate increase subject to any refunds subsequently disallowed by the Commission. The rate increase was based on the higher rates recently put into effect by Colorado Interstate, its main supplier. The increase will affect three wholesale customers of Colorado-Wyoming.

● **Olin Gas Transmission Corporation**: The company has filed a proposed $1.0 million annual wholesale gas rate increase with the FPC. Olin said that the increase would be the first since the present rates were set by the FPC on the basis of 1941 operations. Olin said that the proposed higher rates are designed to reflect changes in operations and long deferred increases in cost which have occurred since 1941. The proposed increase includes in the cost of service the commodity value of gas produced and gathered, and is based on a 6½ percent rate of return. The proposed increase would affect 14 utility and pipeline customers in Louisiana and Mississippi, including two interstate pipeline companies, the Southern Natural Gas Company and Texas Gas Transmission Corporation.

● **Transcontinental Gas Pipeline Corporation**: The FPC has permitted company to make effective as of February 1, a suspended $4.0 million wholesale gas rate increase, subject to refund of any amounts subsequently disallowed. In another proceeding the FPC has suspended an additional proposed $2.2 million, or 3.3 percent, annual wholesale gas rate increase by Transcontinental. The suspended rate increase was based on the higher purchased gas costs resulting from rate filings by several of Transcontinental's suppliers.

● In other rate proceedings, the FPC allowed increases totaling $2.5 million annually by **Union Oil Company of California** and **Louisiana Land and Exploration Company** to become effective February 1, subject to refund. This entire increase affects Transcontinental Gas Pipeline Corporation. The FPC has suspended a proposed $284 thousand favored-nation annual gas rate increase by **Sun Oil Company** for sale to Transcontinental. In addition to the above rate proceedings the FPC allowed 135 rate increases, totaling $493,000 per year, by various independent natural gas producers. The 135 increases which were allowed to go into effect include 103 tax increases amounting to $355,000 annually. The other accepted increases, including favored-nation and periodic increases, totaled $138,000 per year.

Certificate cases

● **Natural Gas Pipeline Company of America**: The company has filed an application with the FPC requesting authority to construct 260 miles of 26-inch pipe and 90 miles of 20-inch pipe from Hutchinson County, Texas to Grady County, Okla. and thence to Wise County, Texas. The total cost of the facilities including a purchase meter station and other appurtenant facilities are estimated to be $28.5 million. Natural Gas Pipeline proposes to operate the facilities for the transportation of an average daily quantity of 78,000 Mcf of natural gas which company estimates will be made available to it in Jack and Wise Counties, Texas and such additional quantities of gas as may be made available to it along the route of the proposed line in Texas and Oklahoma.

● **Tennessee Gas Transmission Company**: The company filed an application with the FPC asking authority to construct new facilities in lieu of facilities previously authorized but not yet constructed. The new proposed facilities consist of 370 miles of 30-inch line from Tennessee's compressor station No. 1 near Agua Dulce (Nueces County, Texas) to its compressor station No. 507 near Kinder in Jefferson Davis Parish, Louisiana. The estimated cost of the project is $35.4 million. The initial capacity of the new line will be 270,000 Mcf per day from Station No. 1 to No. 507. The presently authorized facilities, which Tennessee will not construct if the proposed new construction is authorized, consists of 21,000 in compressor horsepower units and 211 miles of 30-inch loop line, all located along the present pipeline system between Station No. 1 and No. 40 near Natchitoches, La., and estimated to cost $23.0 million. The substitution of the newly proposed facilities will enable Tennessee to save $500,000 per year in fuel costs and a $400,000 a year reduction in other operating expenses.

● **Texas Gas Transmission Company**: The company has filed an application requesting FPC authorization to construct 207 miles of pipeline and 22,600 horsepower in compressor capacity on its natural gas transmission system in Louisiana, Mississippi, Tennessee, Kentucky and Indiana. The new facilities will enable Texas Gas to increase firm deliveries to The Ohio Fuel Gas Company by 39.7 million cubic feet of gas daily and to serve its other present customers an additional 50.8 million cubic feet per day. Total estimated construction cost of the project is $17.5 million.

● The Federal Power Commission has exempted two more companies from regulation under the Hinshaw Amendment to the Natural Gas Act. The two companies exempted are **Cincinnati Gas & Electric Company** and **Michigan Consolidated Gas Company.** Since last March 27, when the Hinshaw Amendment was signed into law, 57 companies have been exempted and two others partially exempted.

Lone Star announces 1955 expansion budget of over $22 million

LONE STAR GAS Company's 1955 budget calls for the expenditure of $22,669,100 on new construction and for improvement of existing facilities, says D. A. Hulcy, president.

"Our 1955 budget," Mr. Hulcy said, "reflects a condition of continuing industrial, business and residential growth in and adjacent to the 427 cities, 393 in Texas and 34 in Oklahoma, served by Lone Star.

"Our reserves position," Mr. Hulcy emphasized, "is the best in the company's 45-year history."

Wisconsin dealers visit Armstrong furnace plant in Ohio

THE ARMSTRONG Furnace Company of Columbus, Ohio, played host to 88 Wisconsin furnace dealers who attended its recent service school on heating and air conditioning.

The school included a tour of the Armstrong plant—one of the largest in the industry—and a study of proper methods of installing, sizing and servicing summer air conditioning and warm air furnaces. The groups were sponsored by the Wisconsin Furnace Supply Corp., Milwaukee, and the Wisconsin Furnace Co., Madison.

Southern Gas Association sponsors two short courses

THE 1955 dates for two educational short courses sponsored by the Southern Gas Association have been announced. The Gas Appliances Short Course, College of Petroleum Sciences and Engineering, will be held at the University of Tulsa on June 1, 2 and 3, under the directorship of Harry N. Carter.

The Short Course in Gas Technology, Texas College of Arts and Industries, Kingsville, will also be held on June 1, 2 and 3. Dr. Frank H. Dotterweich is the director.

Further information concerning these courses is available from R. R. Suttle, managing director, Southern Gas Association, 1932 Life of America Building, Dallas 2.

Borger succeeds Jacob, who retires as Peoples Natural Gas president

H. DONALD BORGER, succeeded John J. Jacob, Jr., as president of The Peoples Natural Gas Co., Pittsburgh, when the latter retired April 1.

On April 1, Mr. Borger also succeeded Mr. Jacob as a director of Consolidated Natural Gas Co., the parent company, New York City.

A veteran of close to 34 years' service with Peoples, Mr. Borger began his career with the company in the treasury department in July, 1921. He was made treasurer in 1942 and elevated to vice-president in 1951. The new president became executive vice-president in 1954. Mr. Borger also served as an executive officer of New York State Natural Gas Corp., another Consolidated subsidiary, from 1937 to 1951.

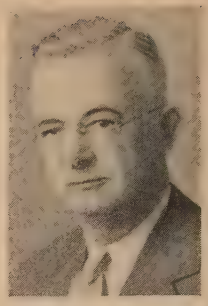
Mr. Borger is a member of various gas industry organizations including American Gas Association and Pennsylvania Natural Gas Men's Association. He has held various committee posts as a member of the A. G. A.

Mr. Jacob, who retired, held a number of responsible executive positions for both Peoples and New York State Natural Gas Corp., sister company, throughout his close to 33-year career in the gas industry.

Mr. Jacob joined Peoples as a civil engineer in 1922. Following his appointment as chief civil engineer in 1936, he was successively elected a member of Peoples board of directors in 1938; executive assistant to the president in 1939; vice-president and assistant manager of Peoples and New York State Natural in 1942; executive vice-president of Peoples in January, 1953; and president of the company in September, 1953. He has been a member of Consolidated's board of directors since 1953.

Mr. Jacob is a member and past-president of the Pennsylvania Natural Gas Men's Association, and was prominently associated with national activities of the American Gas Association for a number of years.

John J. Jacob, Jr.



H. Donald Borger

Overbeck succeeds deMey at Columbia Gas

JOHN E. OVERBECK has been promoted to the position of vice-president of engineering and research, Columbia Gas System Service Corp., New York.

Mr. Overbeck has been assistant vice-president in the engineering department with headquarters in Columbus, Ohio. In his new post, he succeeds Charles F. deMey, who died on February 27. (See this issue of the MONTHLY, page 45.)

Mr. Overbeck has been associated with Columbia Gas since 1916 when he joined a subsidiary, The Ohio Fuel Gas Co., Columbus, as a measuring station operator.

Mr. Overbeck has long been active in American Gas Association work, and in 1953 received the Association's national Distribution Achievement Award in recognition of his contribution to the industry. At present, he is chairman of the Supervising Committee for *Gas Measurement Report No. 3,* member of the General Research Planning and Pipeline Research Committees. He is also a member of the Operating Section's Managing Committee.

Indiana Gas promotes three top executives as Stark retires

PAUL STARK, vice-president and treasurer of Indiana Gas and Water Co., Indianapolis, has retired from a public utility career which began in 1918. He had served Indiana Gas and Water since 1945, after holding many executive positions in Wisconsin and other Indiana companies. Mr. Stark is a member of American Gas Association.

Herman G. Horstman has been named vice-president in charge of district operations for the company. Mr. Horstman is a graduate chemical engineer from Purdue University, and for the past two years has been assistant to the president of Texas Gas Transmission Corp., Owensboro, Kentucky. He is a past-president of the Indiana Gas Association, and a member of American Gas Association.

Louis A. Kirch, the company's chief engineer for the past 10 years, has been named a vice-president in addition to his engineering duties. He started in Chicago in 1920 as a gas engineer and served with three utility companies in that capacity before coming to Indiana in 1933. When Indiana Gas & Water Co., Inc., was organized in 1945, he became chief engineer.

John F. Kavanagh, former comptroller, is now treasurer. Starting with the former Northern Indiana Power Company in 1937, Mr. Kavanagh served in various accounting positions before coming with Indiana Gas & Water Co., Inc., in 1945 as chief clerk. He has been comptroller since 1950.

Corrosion engineers elect Whitney president, Fair vice-president

F. L. WHITNEY, JR., corrosion consultant, Monsanto Chemical Co., St. Louis, has been elected president of the National Association of Corrosion Engineers. He was installed during the association's 1955 Annual Conference and Exhibition at the Palmer House, Chicago, March 7-11. At the same time, W. F. Fair, Jr., Tar Products Div., Koppers Co., Inc., Westfield, N. J., was elected vice-president and R. A. Brannon, Humble Pipe Line Co., Houston, was re-elected to his sixth term as treasurer.

Connole replaces Smith as Federal Power Commissioner

WILLIAM R. CONNOLE of West Hartford, Conn., is slated to become a member of the Federal Power Commission. At the same time that President Dwight D. Eisenhower announced his intention to nominate Mr. Connole, he disclosed that Nelson Lee Smith, an FPC member since 1943, did not wish to be considered for re-appointment when his term expires on June 22.

Mr. Connole, 32-year-old general counsel of the Public Utility Commission of Connecticut, classifies himself as a "political independent." Mr. Smith, also a "political independent," joined the FPC after serving as a member of the Public Service Commission of New Hampshire and as chairman of the Board of Investigation and Research under the Federal Transportation Act. Earlier, he had taught economics at Dartmouth and the University of Michigan. President Eisenhower wrote Mr. Smith a note expressing "thanks and appreciation for all you have done in the public interest while serving your government as a member of the Federal Power Commission."

Lawrence succeeds Hough as Operating Section's 2nd vice-chairman

GROVE LAWRENCE, vice-president, Southern California Gas Co., Los Angeles, has been selected to serve for the remainder of the present American Gas Association year as second vice-chairman of the Operating Section. Mr. Lawrence will fulfill the unexpired term of Frederic A. Hough, who resigned in December.

Mr. Lawrence was graduated from the California School of Mechanical Arts and from the Mechanical Engineering School, Stanford University. He entered utility service in 1925 with the Midway Gas Co., a company which was later acquired by the Southern California Gas Company.

He served as field engineer, division engineer, superintendent of transmission and general superintendent of manufacture, compression and storage. From 1944 to 1948 he was manager of the butadiene plant operated in Los Angeles by the Southern California Gas Company as agent for the Rubber Reserve Company. He returned to natural gas activities in 1948 as assistant to vice-president, production and transmission. He was elected vice-president, gas supply department, in 1951.

He has been active in American Gas Association affairs, serving for several years on the Technical Research Committee; the Committee on Underground Storage and the Operating Section's Managing Committee. As chairman in 1953 and 1954, he guided the work of the Transmission Committee in preparation of the extensive section on pipelining for the revised edition of the *Gas Engineers' Handbook*. Mr. Lawrence played an important role in integrating activities of the former Natural Gas Department into those of the Operating Section when A. G. A.'s separate departments were discontinued. In 1954, he was co-chairman of the Operating Section's first Gas Supply, Transmission and Storage Conference.

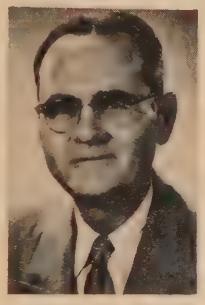
Mr. Lawrence is an active member of Pacific Coast Gas Association, a member of the executive committee, California Natural Gas Association and a member of American Petroleum Institute.

Since the A. G. A. Constitution makes no provision for filling a vacancy left by the resignation of a section officer, Operating Section Chairman Walter Davidson consulted with the Nominating Committee which had originally named Mr. Hough. In the deliberations of that committee, early in 1954, Mr. Lawrence had been a close second choice as candidate for the office, hence he was officially nominated to succeed Mr. Hough. The section's Managing Committee was then polled to approve of the choice of the Nominating Committee.

With the election of Mr. Lawrence, there has been a realignment of sponsorship of certain Operating Section activities. J. H. Collins, Sr., general superintendent, gas department, New Orleans Public Service Inc., and the section's first vice-chairman, will henceforth sponsor those activities previously assigned to Mr. Hough, while Mr. Lawrence will take over those formerly handled by Mr. Collins. Therefore, for the remainder of this year Mr. Collins will sponsor: Gas Distribution and Service Division; Automotive and Mobile Equipment Committee; Corrosion Committee; Distribution, Motor Vehicles and Corrosion Conference. Mr. Lawrence will sponsor: Natural Gas Supply Division; Gas Dispatching Committee; Communications Committee; Gas Measurement Committee; Natural Gas Supply, Transmission and Storage Conference.

Southern Union honors Newman for 25 years of service in gas industry

EUGENE H. NEWMAN, who helped make natural gas history with his part in the laying of the first natural gas pipeline across the Continental Divide has been awarded a diamond-studded pin for 25 years of service with the Southern Union Gas Co., Dallas. Mr. Newman is senior member of the company's engineering department.



E. H. Newman

Mr. Newman started his career with Southern Union as a draftsman and surveyor in 1930, soon after the company was founded. In his 25 years with the organization he has seen it grow from a small company with 40 miles of pipeline to a major natural gas distributing company operating in four states.

Helping the company pioneer the development of the San Juan Basin in New Mexico, one of the leading gas discoveries in the nation, Mr. Newman designed the suspension bridge over the San Juan River, which is one of the few bridges carrying four gas transmission lines. His engineering skill was also used when Southern Union laid the first pipeline carrying natural gas across the Continental Divide in 1930. This line brought natural gas from the Kutz Canyon Gas Field near the Colorado-New Mexico line into Albuquerque and Santa Fe.

In mapping locations for drilling, Newman has ascertained the boundaries for such important locations as the Barker Dome discovery well on the edge of Parodox Basin in New Mexico and the discovery wells drilled last year by the company in the Pictured Cliff Fields, also in New Mexico.

Mr. Newman studied engineering at Texas A. & M. College, and is a registered professional engineer in Texas and a registered land surveyor in New Mexico. He started his career in the gas and oil industry immediately after leaving college as a surveyor and draftsman with the Lone Star Gas Company of Dallas. He held this position for three years before he joined the engineering department of Southern Union Gas Company.

Bacon heads Lone Star research and development department

THOMAS S. BACON has been appointed director of Lone Star Gas Company's newly created research and development department. Mr. Bacon, who has spent almost his entire working life in the engineering field of the oil and gas industry, began his career with Lone Star in 1931 as research engineer, and was appointed chief engineer of the transmission division eight years ago.

Mr. Bacon will coordinate the activities of all departments and divisions of both the Lone Star Gas Company and its wholly owned subsidiary, Lone Star Producing Company, having to do with the research and development program. It will also be the responsibility of the new department to initiate programs of research and development that apply to all divisions of Lone Star system operations.

Creation of the research and development department was authorized by Lone Star directors at a recent meeting in Dallas. Mr. Bacon will report directly to L. T. Potter, Lone Star executive vice-president.

Mr. Bacon, a graduate of Swarthmore College and M.I.T., was employed by the Hercules Powder Co., and Arab Gasoline Corp., before joining Lone Star.

Philadelphia Electric Company announces promotions

MILTON I. ALLEN has been appointed general sales manager, Philadelphia Electric Company. Mr. Allen, who was marketing assistant to the vice-president at the time of his appointment, has been employed by the utility since 1928. He has spent his entire career in sales work and was instrumental in the creation of the company's industrial and commercial development division of the sales department. Mr. Allen is an engineering graduate of Pennsylvania State College.

Philip M. Alden was named sales manager, residental department, succeeding Austin Monty, who was appointed sales consultant. Heading a newly-created department is Frank E. Cheney, who was appointed manager of merchandise sales.

Other appointments announced include Maxwell Cole, assistant sales manager, industrial and retail department; Frank C. Shermer, manager of market studies and service division; Charles C. Shotwell, manager, industrial engineering division; Arnold D. Spillman, assistant manager, market studies and service division; Albert G. Garrigues, manager, retail division; and W. H. Jones, manager, purchasing and service operations.

Names in the news—a roundup of promotions and appointments

UTILITIES

CHARLES M. STONE has been named assistant chief engineer of Colorado Interstate Gas Co., Colorado Springs. Mr. Stone has been with Colorado Interstate as a mechanical engineer since 1954.

RAY E. BACHUS, assistant treasurer of The Cincinnati Gas & Electric Co., retired last Autumn after 47 years of service with the company.

LUDLOW SHONNARD, JR. and JAY DAVIS JR. have been elected directors of Southern Counties Gas Co., Los Angeles. Both are vice-presidents: Mr. Shonnard in charge of the company's personnel, claims and industrial relations activities; Mr. Davis in charge of construction and distribution.

BEN D. WILLIS has been named administrator of Lone Star Gas Company's income tax division, with headquarters in Dallas, Texas. Mr. Willis succeeds W. E. HIX, who will continue to serve the company in the capacity of tax consultant.

At Oklahoma Natural Gas Co., W. LEON BEASLEY, assistant to the Oklahoma City district superintendent, was promoted to manager of the newly organized Sapulpa area. JAMES W. WILLIAMS, engineer of the operating department of the Shawnee district, succeeds Mr. Beasley in Oklahoma City.

O. M. HEARTSILL, JR., manager at Bristow, was promoted to commercial sales engineer, general seals department, Tulsa; LOREN T. MOORE, Sapulpa manager, was promoted to manager at Bristow.

MANUFACTURERS

Minneapolis-Honeywell Regulator Co.'s midwestern region have announced three personnel changes. ARNOLD CHALLMAN has been promoted from manager of the Peoria branch office to administrative assistant to T. S. Carley in the company's regional sales and service office in Chicago. R. C. FERGUSON, formerly manager of district sales office in Davenport, will now manage the Peoria office, while R. R. SCOTT, former regional sales manager for the company's valve division in Chicago, is the new manager of the Davenport office.

A. R. PIERCE, product manager of Magic Chef Heater Division has been appointed a special factory representative to handle national space heater accounts. J. J. EDWARDS has been appointed merchandise manager, heater division.

FRED K. WHITESIDE has been appointed to the New England sales district of Selas Corporation of America as sales and engineering representative. For the past 10 years, Mr. Whiteside has been associated with W. S. Rockwell Co., and since 1952 has been general sales manager of furnace and oven division.

HOWARD MEHR has joined Selas' public relations department. He previously served advertising agencies O. S. Tyson and Co., New York, and P. S. Advertising, Inc., Stamford, Connecticut.

WILLIAM HOOD has been named acting director of engineering for the Unitary Equipment Div., Carrier Corp., Syracuse. Mr. Hood is an A. G. A. member. He has been Carrier's residential development department manager, and replaces Sam Shawhan, who has been appointed assistant to the president.

WALTER R. DWYER has been appointed eastern regional air conditioning manager for Servel, Inc. Mr. Dwyer succeeds NILS D. SELLMAN, who resigned.

JOHN H. WALL, Evansville industrial executive, has been named general manager of the company's new self-contained home appliance division. He was elected a vice-president and named a member of the firm's executive committee at a board of directors meeting on January 25. Servel also announces that Allen E. Apple, formerly industrial relations manager, is now manager of employee relations and Jack Hewson, formerly publicity manager, is director of public relations.

Columbia Workshop names nine experts to serve as consultants

A PANEL OF NINE noted experts in varied phases of management problems has been selected as the board of consultants for the 1955 Utility Management Workshop, sponsored by The Department of Industrial and Management Engineering, Columbia University. The Workshop will be held from May 15 to May 27 at Arden House, Harriman, N. Y.

The guest experts are: Perrin Stryker, member of the board of editors, *Fortune* Magazine; Florent E. Verdin, consultant; Earl Planty, executive counsellor, Johnson & Johnson Co.; Hugh Thuerk, president, New Jersey Power & Light Co.; F. Alexander Magoun, consultant; Dr. Wilbert E. Moore, professor of sociology, Princeton University; Dr. Gilbert David, vice-president, The D. E. McNicol Pottery Co.; Dr. W. D. Woodward, American Cyanamid Co.; and Walter H. Sammis, President, Ohio Edison Co., and former president of the Edison Electric Institute.

Howard Bean wins high ASME honor

HOWARD S. BEAN, chief of the Capacity, Density and Fluid Meters Section of the National Bureau of Standards, has been awarded the Worcester Reed Warner Medal of The American Society of Mechanical Engineers.

The honor was conferred on Mr. Bean at the recent anniversary meeting of the society in New York. The presentation was made by David W. R. Morgan, president of ASME and vice-president of Westinghouse Electric Corp., before an audience of engineers and scientists gathered to commemorate the founding of the society 80 years ago today.

The Worcester Reed Warner Medal is bestowed for outstanding contributions to permanent engineering literature. Mr. Bean was recognized for his writings in the field of flow measurement. He is a member of American Gas Association.

Sillin promoted

THE Central Hudson Gas and Electric Corp., Poughkeepsie, has announced that Lelan F. Sillin Jr., assistant general manager, has been elected a vice-president and director.

Mr. Sillin will fill a vacancy on the board caused by the retirement of Robert B. MacGuinness. The company also announces that Joseph F. Furlong has been elected secretary and assistant treasurer.

Osborn achieves assistant comptrollership

S. P. OSBORN has been elected assistant comptroller of Texas Eastern Transmission Corp., Shreveport.

Mr. Osborn joined Texas Eastern in January, 1948, and has served since as chief accountant. Prior to that time, Mr. Osborn was assistant treasurer for Columbia Gas System Companies.

He was graduated from the University of Notre Dame in 1934, and has devoted his career to the accounting field. He is a member of the American Gas Association, National Association of Cost Accountants, the Independent Natural Gas Association of America, and various divisions of the Mid-Continent Oil and Gas Association.

Kohlhepp succeeds Werner

CHARLES E. KOHLHEPP, president of Wisconsin Public Service Corp., Milwaukee, has resigned to become president of Jersey Central Power & Light Co., Asbury Park on April 1.

He will succeed E. H. Werner, who retires on that date. Mr. Kohlhepp has been president of the Wisconsin utility since 1948.

American Chemical Society leaders chosen

DR. MARTIN B. NEUWORTH, research supervisor of the Pittsburgh Consolidation Coal Co., Library, Pa., has been elected chairman of the American Chemical Society's Division of Gas and Fuel Chemistry. He took office on January 1, succeeding Dr. C. R. Kinney of the Pennsylvania State University.

Dr. Harlan W. Nelson, Battelle Memorial Institute, Columbus, was named chairman-elect and R. Tracy Eddinger, Eastern Gas and Fuel Associates, Boston, was chosen secretary-treasurer.

Magic Chef names Wyman

ALLAN M. WYMAN, formerly president of Smithson, Wyman & Withenbury, Inc., has been appointed director of advertising and sales promotion, at Magic Chef, Inc., St. Louis. Mr. Wyman will be responsible for all advertising for all products of Magic Chef.

Construction costs

(Continued from page 27)

of the contracts. For example, are labor rates and payroll taxes in accordance with the terms of the contract? Has the unemployment tax rate charged by the contractor been checked to determine whether it is the actual rate paid by him and whether he is allowing for the tax-exempt portion of wages?

One of our largest recoveries on payments which had been made to contractors prior to our audit of contracts, consisted of unemployment tax charges at a rate in excess of the contractors' actual cost and payroll taxes applied to tax-exempt wages. Our recoveries on this type of overbilling amounted to approximately $55,000.

There are other factors to be considered by the auditor in reviewing contract payments. Is overtime work properly authorized? Are supervisory labor charges to be absorbed by the contractor's general fee? How are materials and equipment rentals priced? Are cash discounts taken by the contractor passed on to the company? When the contractor's general fee is computed as a percentage of labor charges, is it properly applied?

This phase of verifying the propriety of contractor's billings is difficult because it involves an interpretation of the terms of the contract. In many cases it will be found that the terms of the contract may not actually state the intent of the contract. For example, a contract may provide that a percentage for overhead and profit is to be applied to the total labor cost, when it was actually intended that the percentage be applied only to straight-time labor exclusive of premium time.

Where the terms of the contract provide for public liability and property damage insurance at actual cost and they are applied as a percentage of payroll charges, a determination must be made that the rates charged reflect the contractor's actual costs. When this insurance is carried with mutual companies, it is also necessary to ascertain that any dividends paid to the contractor are passed on to the company.

Another form of insurance where it is necessary to review quite carefully is the performance bond required on some contracts. A case was encountered where premiums for this bond were paid by the contractor and billed to the company. However, the flat rate per thousand billed by the insurance company was incorrect, since a reduced rate was applicable to that portion of the contract where the charges exceeded two million dollars. This discrepancy was brought to the attention of the insurance company and approximately $3,300 was recovered.

It is possible that, by the time the audit has reached this stage, the auditor may find that many contract terms are ambiguous, making it difficult to determine whether the payments are being made in accordance with the intent of the contract. One solution to this problem is for the auditor to refer all such matters to the departments negotiating the contracts, so that these terms may be clarified or eliminated in future contracts. Another solution, followed by some companies, is to *route contracts to the auditing department before they are signed* so that these troublesome terms can be spotted and disposed of before the negotiations are completed.

On most internal audits, it is difficult to measure the value derived in terms of dollars because the value is of an intangible nature. However, on contract audits, we can realize definite tangible values in terms of dollars. Our experience has been that the amounts recovered from errors and irregularities in the contractors' billings discovered by the auditors have more than paid for the auditing costs.

During the past three years that we have been making a continuous audit of cost-plus construction contracts, we have disallowed or recovered overbillings of contractors' invoices for a total of approximately $120,000. This does not take into consideration the intangible savings which were realized by the elimination of the repetitive types of errors and irregularities and by the preventive effort on further errors by the contractors which could have run into very sizable, additional sums.

Peoples' safety

(Continued from page 13)

Peoples gives prompt attention to engineering revisions or mechanical changes which offer the prospect of safer working conditions. As examples, guards have been redesigned for moving machinery; improvements have been made in bailing machine equipment; and brakes have been designed for compressors that are towed behind trucks.

Purchasing is tied in with company safety activities. All purchases of personal protective equipment, safety equipment, first aid supplies, and fire extinguishers are referred to and approved by the safety department. Employees who are involved in the types of work calling for safety shoes are able to purchase them through the company.

All of this planning, effort, and cooperation in the interest of safety has paid big dividends. In 1924, when Peoples gave its first attention to an official safety program, there were 139 lost-time accidents. In 1953, by sharp contrast, Peoples had four lost-time accidents. A Merit Award given to the company by the American Gas Association recently showed that 1,690 employees worked from April 6, 1954, to October 21, 1954—a total of 1,928,998 consecutive man hours, without a disabling injury.

Safety Director Nuhfer attributes the success of Peoples' safety program to "the high type of employee found at Peoples" and the "100 percent backing of management." Undoubtedly, employees who have a personal sense of responsibility regarding safety, and members of management, who demonstrate a strong sense of moral obligation as well as dollars-and-cents consciousness with respect to safety, are powerful influences in the favorable shaping of a safety program.

But a favorable employee and management climate cannot, in itself, generate a successful safety program. In his enthusiastic direction of Peoples' safety effort, Safety Director Nuhfer supplies the necessary spark that makes the most of opportunity. A tireless worker, he is never without a suggestion or an idea for safety progress and improvement. As long as there are accidents, he is not satisfied with the status quo.

Meanwhile, Mr. Nuhfer serves the gas industry and the safety movement in other ways. He is chairman of the A. G. A. Accident Prevention Committee; a director of the Western Pennsylvania Safety Council; a member of the American Society of Safety Engineers and a past chairman of the or-

(Continued on next page)

ganization's Western Pennsylvania chapter; and a member of the Veterans of Safety, an organization with membership limited to those having 15 or more years' responsible safety work.

A progressive employee-management attitude and the skilled direction of its safety program by a competent and experienced safety director has given The Peoples Natural Gas Company a safety record it can view with a great deal of pride. But Safety Director Nuhfer, running true to form, isn't satisfied. He won't be as long as the accident rate goes one above zero for an entire year.

Cathodic protection

(Continued from page 22)

tion of the distribution systems within town boundaries, was approached with much more caution. There was about 15,000,000 feet of steel main and at least twice that amount of steel service pipe to consider, located in grown-up areas with improvements completed or near completion. Most of the pipe was sized correctly, but the age varied all the way to 40 years.

Therefore, the condition of the main was a big factor in the ultimate solution of the protection problem. The manpower required for this type of job was considerably more because every service had to have an insulating feature ahead of the meter in addition to insulating flanges to isolate the main into reasonably sized sections. Also, because of the proximity of other utilities and lack of good coating on all of the pipe, more trouble could be expected from shorts, unknown contacts with water pipes, and other underground installations.

Coordination difficult

As expected when the program of protecting the small distribution mains was embarked upon, difficulty was encountered with coordinating the various phases of the job. Seven years of experience, during which cathodic protection was applied to 1,884,660 feet of steel pipe out of the 15,000,000 feet mentioned above, brought out the fact that our primary mistake was in attacking sections that were too large. Some of the individual projects involved as many as 3,200 meters.

The installation work in customers' homes which was done by fitters had to be sandwiched in with the other work load in the area, and while the actual time of installing the insulating couplings was not excessive, we encountered the usual problems incident to breaking into piping in older homes. As a result, it was difficult to coordinate the work being done by the fitters with the installation of the anodes by a private contractor.

Efforts are now directed to small sections at a time. As an example, if an extension is being made from an older section of the system, the insulating flange will not be located at the beginning of the new construction, but rather back on the old system at a strategic spot to include two or three thousand feet of the old main with as many as 50 services. A better over-all job at less cost is accomplished in this manner.

By a careful choice of sections, the fitter's work can be spread over the company, rather than on one local organization as it was when larger sections were worked. Also, the engineer finds it easier to do the field checking after the installation is in service, with the result that less time per unit is required for a thorough job. This may not seem important, but experience has established that the success of this type of operation is very dependent on the thoroughness of the field check; anything that can be done to simplify this operation is worthwhile.

The problem of stray current with its benefits as well as ill effects was not of first consideration, but it was of such magnitude that it could not be neglected. It had to be coordinated with all of the other corrosion mitigation work being done. The distribution system of the Northern Illinois Gas Co., bordering on the limits of Chicago, had practically no mechanical ties with other underground facilities inside of the city.

For this reason, all of the stray currents from street car lines operating in the fringe areas of the city had to be controlled without recourse to cooperative efforts of the street railways. Where other underground facilities were involved with the same problem, such as oil lines, electric underground and telephone cables, tests were conducted jointly and effective controls were put in service by mutual agreement.

Fortunately, the effects from fringe areas and suburban street car lines have about disappeared with the conversion to buses. However, three electric suburban lines are still operating, and offer serious problems of control for all underground structures outside of the city.

This phase of corrosion control has to be kept under close observation continually to adjust for changes not only at the source, but changes caused by improvements and additions to the company's gas system and the systems of those with whom the cooperative efforts were made.

A word about the personnel required to carry out the program just outlined. Our corrosion engineering organization is a section of a centralized engineering department which performs all the engineering functions of the company.

At present, the corrosion organization consists of a corrosion engineer, assisted by three engineers, two non-technical men, and a clerk. One engineer devotes his entire time to the problems of main replacements; it is his responsibility to evaluate and make studies and recommendations on all replacements requested by the operating organization. A second engineer is occupied full time with the operation and maintenance of rectifiers and drainage switches, making all necessary field checks of such installations to determine the effectiveness of their operation. A third engineer handles all of the design problems involved with cathodic application to new construction and to old distribution supply mains and systems.

Use special truck

The corrosion section has under its direction a truck fully equipped and manned to make installations of anodes, rectifiers, ground beds, and insulating flanges. One of the non-technical men referred to above is assigned primarily to the activities of this truck and crew.

The second non-technical assistant follows up on all anode installations on new construction and makes the first check in the field after construction to determine whether the installation is operating as designed. The clerk keeps all office records and maps up to date and assists in the routine designation of cathodic requirements on new construction.

The problem of checking the operation of anodes periodically (about every two years) has been solved by placing this work in the hands of the leak inspectors of the operating organization. Some consideration was given to organizing a group in the corrosion engineer-

ing section to do this work, but since leak inspectors covered this very territory on their patrols and already had the necessary transportation, it was decided to provide them with the necessary equipment and training to take the readings. This has the added advantage of maintaining the interest of the operating forces in the cathodic protection facilities located in their area.

Eight years of experience is not sufficient to make a definite statement as to the effectivenss of the protection being provided for new distribution construction. A thorough check made recently with the operating forces and the leak records revealed that failures on new construction due to corrosion are not occurring today as they were when coating alone was the only protection. It is reasonable then to conclude that the small expenditure being made on new construction for the added protection of a cathodic application is justified.

Experience bears out the fact that corrosion can be arrested on bare or poorly coated steel mains located in rural areas by the use of rectifiers. Even though the job of cathodic protection is not quite comparable to that applied on a new main, it still is economically sound to apply cathodic protection to any steel main is this category which is in reasonably good condition and of sufficient capacity. No set formula can be applied universally to arrive at a decision; each case must be considered on its own merits and judged according to its particular location and condition.

Cathodic protection systems for distribution within town boundaries and in built up areas are relatively easy to design, but difficult to accomplish with any degree of speed. The work load of the fitter organization must be taken into account when planning any program. Field checking such an installation after completion is considerably more difficult and time consuming, but absolutely necessary to assure success. Costs are higher than they are on new work; yet the savings made on fixed charges, by adding only a few years to the life of the main and services involved, should more than pay for the total cost of their cathodic protection.

Stray currents may very well be considered as "free protection" only if they are constantly kept under control. Fortunately, instruments and equipment to adequately do the job are now available. All that is required is the know-how which stems from experience.

The engineering required for designing cathodic protection on new construction is almost routine if all facilities are coated. Engineering personnel for cathodic protection work (other than new construction) should be geared to the size and type of the system involved and to the urgency of application. Based on our own experience, an approximate estimate of engineering personnel required is one engineer and one nontechnical assistant for every 100,000 meters.

Industrial gas school

(Continued from page 30)

Continental Equipment Co., Coraopolis, Pennsylvania.

O. M. Olsen, Sellers Engineering Co., Chicago.

R. J. Reed, The North American Manufacturing Co., Cleveland.

R. J. Ruff, Catalytic Combustion Corp., Detroit.

F. C. Schaefer, American Gas Furnace Co., Elizabeth, New Jersey.

H. M. Short, Aluminum Company of America, Pittsburgh.

John E. Wakefield, Maxon Premix Burner Co., Muncie, Indiana.

A. W. Weber, Corning Glass Works, Corning, New York.

From one of the leading dealers will come Herman "Bud" Koester, Jr., of W. Wirt Young & Associates Inc., Wellesley Hills, Mass., and a former member of The Peoples Gas Light and Coke Co., Chicago, now a consultant, A. D. Frydendall, will again address the students.

A program has already been mailed setting forth the details of the course, registration blank and all other pertinent information regarding fee, hotel accommodations and other news of interest to the prospective students.

The registration for the 1955 school will be limited to 150 students and the deadline for registration is set for April 27. Due to the popularity of these industrial schools it is advisable to get reservations in early to assure being included in the 1955 Industrial Gas School.

NEGA unit sponsors service supervisors school

New England Gas Association's Service Coordinating Council, formed in the Spring of 1954, is chalking up a year of progress—including promotion of closer understanding between New England utility appliance service supervisors and representatives of manufacturers and distributors in the area.

The council's most important activity has been the preparation of a curriculum for a training school which was held at the Worcester Polytechnic Institute on April 6-8. The school marked the first time a NEGA unit sponsored a training school designed specifically for appliance servicing supervisors. The Commercial-Heating-Industrial division, however, has held many training schools at the Polytechnic Institute, and is holding another one on April 4-6, immediately preceding the SCC school.

Much careful thought went into planning the program for the new school so that it would prove of maximum value. As a result, the course incorporated a cross-section of the fundamental information essential for appliance servicing supervisors, with special reference to training activities.

On Wednesday, April 6, the day when the schools were in joint session, two important presentations were made on subjects which recognized the close affiliation of service, public relations and sales. These presentations were made by Virgil L. Rankin, management public relations consultant, Boston, and John J. Quinn, vice-president in charge of sales, Boston Consolidated Gas Company. Mr. Rankin's topic was "Creating Bad Public Relations", while Mr. Quinn spoke on "What's With You—Is Your Slip Showing?".

Regional associations

(Continued from page 16)

for one, believe it may well be the single most important activity we carry on.

Do you realize the PAR Plan now is in its second decade of successful existence? And while the formula for support is not easy to fit to everyone's needs, I feel that the formula as revised this year is the best we could expect to be able to develop in view of the many problems which had to be met. At least the plan now provides a much wider basis of selectivity to the subscribing company.

In 1954 many people talked in a discouraged vein because we did not raise enough money to cover the enlarged PAR budget. But do you realize that in 1954 we raised more money than in any previous year? What is so wrong about that?

I am convinced this program is entitled to wider support and I believe our industry will follow through.

PAR goal

This year's goal is $2,360,000 from utilities, with an additional $300,000 for pipeline research. We even hope that some of the pipeline companies will see their way to supporting PAR over and beyond the pipeline research portion of the program.

Under the PAR research program our own laboratories and those of outside organizations will continue to seek improved methods of producing and utilizing gas. I will not try even to touch upon the 50 research projects that make up this program. But I do wish to say that as a part of our over-all review of internal operations we intend that our research program shall stand the scrutiny of realistic appraisal and reappraisal from time to time.

We all talk about the weather but no one does anything about it. In the gas industry we all talk about air conditioning, but all to few of us appear to do much about it. Of course, this is due to a variety of reasons, some of them probably valid.

But I am encouraged by current developments. Servel has set up a new organization which it believes can get more results. Air conditioning has come of age in our PAR research program. Direct supervision of a special task force comprised of the chairman of the General Research Planning Committee and the heads of four research committees is being given to the work. Two qualified research corporations made independent studies and analyses of all present knowledge of air conditioning. Reports from these analyses have been published.

In addition to the funds A. G. A. is devoting to air conditioning research several manufacturers, including Bryant, Carrier, Servel and Coleman, are investing hundreds of thousands of their own dollars in this field.

At the annual convention in Atlantic City last October, President Eacker had the pleasure of presenting special award certificates to 13 companies that had made outstanding records in accident prevention. He also presented 67 other companies with certificates of merit for having reduced accident frequency rates more than 25 percent during the previous year.

At A. G. A. we have a full time safety consultant, who is doing a fine job in promoting accident prevention programs among our companies. He has visited with you in New England, and is available at all times to help you with your problems. I sincerely hope that when the awards are next made, possibly at our 1955 Annual Convention in Los Angeles, that I will have the honor of presenting New England companies with some of the meritorious awards.

Public safety is another field in which we have much to do to assure both the public and insurance carriers of the safety of our operations. At our A. G. A. Laboratories in Los Angeles and Cleveland approximately 5,600 different models of appliances were tested last year to insure their safety, durability and efficiency. The Seal of Approval of the A. G. A. Laboratories is a great consumer certification. How easy it is to forget the great work that has been done in that field since 1926—something really unique in industry and of which we should be proud.

And in speaking of safety, after two years of hard work, a gas industry subcommittee has formulated a Code for Pressure Piping which has met the approval of American Standards Association Sectional Committee B31.1. This code now awaiting final adoption by ASA is a safety code covering all transmission and distribution piping. When adopted and published it will further strengthen the belief of the public in the safety of the gas transmission and distribution lines. If you think that result just happened you have been out of touch with the tremendous time and effort and compromise which has gone into that end result.

Coordinate PR

Finally, while I do not want to point up the obvious, I would be derelict if I failed to pinpoint what A. G. A. is doing in the field of public relations. Not all it might be? Not aimed at particular targets, you may prefer? Perhaps! But it does merit your support. This program is designed to help gas utilities at the local level. It is being coordinated with the programs initiated at the national level by the Independent Natural Gas Association, and by GAMA. How-to-do-it publications, local level news stories, articles covering the gas industry for company publications—these are a few of the services now being rendered. Your help and guidance will make this program more effective. Try it out by letting the Association know about any public relations problems you may have and also of your achievements. Your experience can help other companies.

Meter repair

(Continued from page 11)

meter repair here, cleaning being done previously by wire brush and scraper. Liquid cleaning was considered but ruled out in favor of sand blasting. Results to date have been very good both as to quality and time required for cleaning. After blasting, the meter is conveyed to the de-topping benches where the tops are removed and the bolt-up types disassembled.

The tin meters are then placed on one conveyor and the bolt-ups on another. These two conveyors, which are underneath another conveyor, supply the repair benches, which are in two parallel rows, tin meter repair on one side and bolt-up meter repair on the other.

After repair, both types of meters are placed on the upper conveyor and carried to the testing and proving benches. Here they are first leak-tested at one pound pressure registered on a water column for ten minutes. If no variation shows on the water column the meter is

classed gas tight.

The meter is then proved on bell-type provers and tested for low rate of flow by passing a very small volume of air through the meter. To ensure air is flowing at all times, a bubble jar is used as an indicator. After testing, the tin meters are topped, the bolt-up meters wired for sealing, all tested under water for leaks and sent to the government prover.

The last operation, painting, employs a method not previously used in meter shops. An overhead conveyor carries the meters through an open tank where paint is continuously poured over them. This pouring process is a modification of the dipping method but eliminates the buoyance problem inherent in submerging tin meters. The rate of the conveyor is timed so that the meters are dry when the cycle is completed. The meters are now ready for shipment.

A great deal of work was entailed in preparing the new records made necessary by the change but all meter data is now stamped on IBM tabulating cards and closer control is possible. In order to determine which meters are due for recall, it is only necessary to feed the cards into the machine and the answer is available in minutes.

While the central repair shop has not been in operation long enough to give a true indication of costs, it has so far shown that better control of costs, methods and records are obtainable than when small local repair centers were used.

Industrial relations

(Continued from page 18)

basic industries where there was history of plant-wide units.

The Board states its position in connection with election petitions filed by Local 135 of AFL's Teamsters, and CIO's Utility Workers for severance of units from a broad bargaining unit at the Public Service Company of Indiana, which operates across the state.

The Teamsters sought an election among stockmen and stockmen-drivers while the Utility Workers wanted a vote among generating employees. Currently, Local 1393 of AFL's International Brotherhood of Electrical Workers is bargaining agent for an over-all unit of the Indiana utility's employees, including the stockmen sought by the Teamsters, and some of the generating workers covered in the Utility Workers' petition.

The Teamsters contended that the stockmen represented the kind of "functionally distinct, homogeneous group of employees" called for under the American Potash rule as representing "an appropriate departmental unit" that could be severed from the broad bargaining unit. The Utility Workers made the same claim about the generating employees.

But the Board says in a unanimous decision, throwing out both petitions: "The reliance of the CIO and Teamsters on the *American Potash* decision is misplaced. The Board's policy that a system-wide unit in a public utility is the optimum appropriate unit, is a principle apart from the *National Tube* doctrine. Therefore, the *American Potash* decision, which sharply limited the application of that (National Tube) doctrine is not relevant to a determination of the severance issue in this case which involves a public utility."

Having disposed of the Utility Workers' petition for the generating workers, the Board then directs an election among them to decide whether they wished to be represented by the IBEW which, also, had filed for an election among employees in that classification it does not now represent. (Cases Nos. 35-RC-1009, et al. Made public February 17, 1955.)

Working foreman as a supervisor—The Board ruled that a working foreman is a supervisor under the Taft Act, and should be excluded from a bargaining unit of his subordinates, when it is evidenced that he (1) possesses authority to recommend merit increases, promotions and discharges, and (2) when he directs the work of other employees, with the authority to effect their discharge, to assign work to them and to grant them time off. (See Miller Manufacturing Company and Teamsters, AFL, et al.; NORB Case Nos. 5-RC-1407, 1408; November 17, 1954.)

Union assessment not dues—According to the NLRB, a quarterly assessment, levied by a union on its members at a meeting during which members agreed not to raise regular monthly dues, is not "periodic dues" within the meaning of the NLRA union-shop provisions (Anaconda Copper Mining Co.). Threatening discharge for failure to pay this assessment is unlawful.

Wage information for unions—When a union requests necessary information on individual employees' wages, the employer will have committed a refusal to bargain if he refuses to give it, even though some workers have expressly requested him not to reveal the information (Utica *Observer*). In addition, the employer must run the risk of opening himself up to competitors' piracy, and of offending employees (Boston *Herald*).

The Board stated: "the employer was under a duty to supply the data on all of the employees, and not on just some of them as it did. . . . The right of a collective bargaining representative to wage data cannot be made contingent upon the consent of the individual employees, any more than it can be made contingent upon the consent of anyone else."

1955

APRIL

12-14 •A. G. A. Sales Conference on Industrial and Commercial Gas, Hotel Statler, Boston, Mass.
14 •GAMA Sixth Annual Automatic Gas Range Conference, Hotel Pierre, New York, N. Y.
12-15 •A. G. A. Distribution, Motor Vehicles and Corrosion Conference, Cincinnati, Ohio
18-19 •A. G. A. Residential Gas Section, Eastern Natural Gas Regional Sales Conference, Hotel William Penn, Pittsburgh, Pa.
19-21 •Southwestern Gas Measurement Short Course, University of Oklahoma, Norman, Okla.
20-22 •Indiana Gas Association, Annual Meeting, French Lick, Ind.
25-27 •Mid-West Regional Gas Sales Conference, Edgewater Beach Hotel, Chicago, Ill.
25-27 •National Conference of Electric and Gas Utility Accountants, Conrad Hilton Hotel, Chicago, Ill.
27-28 •A. G. A. Research and Utilization Conference, Hotel Statler, Cleveland, Ohio

MAY

1-4 •LPGA Annual Convention, Conrad Hilton Hotel, Chicago, Ill.
2-4 •U. S. Chamber of Commerce, Annual Meeting, Washington, D. C.
2-6 •A. G. A. Industrial Gas School, William Penn Hotel, Pittsburgh, Pa.
9-10 •A. G. A. Gas Supply, Transmission and Storage Conference, William Penn Hotel, Pittsburgh, Pa.
9-13 •National Restaurant Exposition, Navy Pier, Chicago, Ill. (A. G. A. will exhibit)
12-13 •Public Utilities Advertising Association, Sheraton Hotel, Chicago, Ill.
16-18 •Southern Gas Association, New Orleans, La.
17-19 •Pennsylvania Gas Association, Pocono Manor Inn, Pocono Manor, Pa.
23-24 •A. G. A. Residential Gas Section New York-New Jersey Regional Gas Sales Conference, Hotel Commodore, New York, N. Y.
23-25 •A. G. A. Chemical, Engineering and Manufactured Gas Production Conference, Hotel New Yorker, New York, N. Y.

JUNE

5-9 •Canadian Gas Association, Annual Meeting, Sheraton Brock Hotel, Niagara Falls, Ontario, Canada
6-8 •Institute of Appliance Manufacturers, Annual Convention, Netherlands Plaza Hotel, Cincinnati, Ohio
9-10 •Natural Gas and Petroleum Association of Canada, Annual Meeting, Royal Connaught Hotel, Hamilton, Ontario, Canada

Personnel service

SERVICES OFFERED

Industrial Sales Engineer—with twenty years' experience in applications of gas and oil to various industrial and commercial processes. Executive and organization ability. Qualified heating engineer. Midwest area preferred. Will consider other territory. Presently available. **1801.**

Student Engineer—holder of BS from Punjab University and at present studying gas distribution and supply at Westminister Technical College in London. Wishes to gain practical experience in U.S. and then plans to return to Pakistan eventually. (24) **1802.**

Experienced LP/or Utility Gas Operator—desiring position in expanding area where seasoned experience can be used to mutual benefit. **1803.**

Distribution Engineer—capable of planning and supervising the installation of gas mains. Competent and experienced in handling of maintenance of gas mains. Have knowledge of complete office procedure. Familiar with operating methods, budgets, scheduling. **1804.**

Administrative Assistant—registered professional engineer with nine years' diversified experience assisting management of a natural gas holding company with its operational planning, regulatory hearings, rate investigations, and economic feasibility studies desires similar position with progressive gas or combination company. Prefer Eastern location. **1805.**

Executive—unusually successful experience and broad background in all segments of company operations both as an operator and consultant. **1806.**

Distribution Engineer—experienced in design and operation of natural gas distribution systems desires position with opportunity for advancement. Graduate degree in business administration. Eight years' engineering experience with gas utility. **1807.**

POSITIONS OPEN

Test and Development Engineer—exceptional opportunity for experienced test engineer offered by national manufacturer of domestic gas heating equipment. Duties involve product development and testing. Several years' experience and thorough knowledge of A. G. A. testing procedures required. **0759.**

Heating, Ventilating, and Fuel Economy Engineer—qualified to evaluate commercial size heating and ventilating equipment and installations and make cost analyses thereof. Beginning salary approximately $5,900. **0760.**

Business Manager—with medium-sized Mid-Western utility, serving approximately 140,000 gas and water meters. Must be capable of coordinating and supervising General Accounting, Auditing, Consumer's Accounting and Purchasing departments. Will be responsible for establishing accounting controls, budgets, procedures, etc. in connection with entire operation of company. Degree in Accounting necessary. Must be in good physical condition. **0761.**

Distribution Engineers—a prominent midwestern utility has immediate need for Gas Distribution Engineers. Must be a college graduate with experience in distribution engineering and operations. Your reply should include age, experience and salary requirements. All replies will be held confidential. **0762.**

Gas Meter Engineer—experienced in operation, testing and maintenance of displacement and orifice meters. Opening is with sound, fast growing, midwestern utility serving 140,000 customers. Good opportunity for advancement. Give details of experience, education and personal data. **0763.**

Salesmen—experienced in sales and service, gas and air conditioning equipment. Metropolitan New York area. Must have own car. Send in resume. **0764.**

Gas Plant Engineer—short term overseas assignment on staff of American consulting firm to survey and report on proposed improvements to two municipal gas plants. **0765.**

Accounting Specialist—to assist controller of large natural gas company in West. C.P.A., accounting degree and 10 years' experience in the gas business preferred. Age 30-40. Must have analytical and research ability. Work involves special problems, i.e., budgets, reports, rate cases, tax matters, etc. Excellent opportunity for advancement in expanding company. Salary open. Liberal employee benefit plans. Submit details about self, past experience and approximate salary expected. **0766.**

Manufacturers Representatives—to handle complete line of furnaces. This is one of the leading, old established manufacturers in the business. Preferred and protected territories open. Only qualified aggressive sales representatives wanted. Give full references and experience in reply. **0767.**

Industrial Sales Engineer—with New York sales representative, industrial gas equipment, age 25-32. Experience with utility or gas equipment manufacturer preferable but not necessary. Submit resume. **0768.**

Facts and figures

(Continued from page 14)

load represents a desirable feature. Electric dryer shipments during 1954 also attained 662,000 units, up 23.0 percent over last year.

The accompanying table presents statistics on national shipments of dryers, annually since 1947. During 1954 there were 2.8 electric dryers shipped for each gas dryer, an improvement over 1953 when the ratio of electric dryer shipments to gas dryer shipments was 3.4.

Appliance data relate to manufacturers' shipments of the entire industry compiled by the Gas Appliance Manufacturers' Association. Industry-wide electric appliance statistics are based on data compiled by the National Electric Manufacturers' Association and are reprinted by GAMA in their releases.

Gas utility and pipeline sales to ultimate consumers during November were up 10.0 percent, rising from 6.6 billion therms in January, 1954 to 7.2 billion therms in the current January. The increased sales are partly attributable to the growing number of gas utility customers. The gas utility and pipeline industry was serving approximately 27.9 million customers with either natural, manufactured or mixed gas and an additional 260,000 customers with liquefied petroleum gas distributed through utility gas mains. This was 960,000 customers more than was served a year ago.

Another factor contributing to the increase in sales was the colder weather experienced throughout most of the country and the effect upon the 14 million homes heated with gas as compared with the 12.9 million homes heated a year ago. Industrial production as measured by the Federal Reserve Board Index was 131, up 4.8 percent over January, 1954. In line with the increased industrial activity, sales of gas to industrial consumers during the current month increased 7.8 percent over the comparable month last year. The January index of total gas utility and pipeline sales is 206.0 (1947-1949 = 100).

Customers, sales up

(Continued from page 23)

the largest percentage increase being 18.6 percent in the commercial category. Increases of 15.4 and 10.1 percent were attributable to the residential and industrial categories, respectively. Increases were due to greater consumption of gas and, in some measure, to increased rates instituted by utilities.

Prices paid by residential consumers for gas, as reported by the Bureau of Labor Statistics, rose 12.4 percent since 1945, based on a constant amount of gas consumption. On the other hand, during this same period the index of consumer prices for all goods and services purchased by households increased 49.2 percent, or more than four times as much. Increased gas rates are due primarily to higher cost of gas from suppliers, and a general rise in operating costs and taxes of the distributing companies. The former reflects increased field prices of natural gas, resulting from higher exploration costs, increased transmission costs and increased demands for gas.

To meet the ever-growing demands of the nation, large construction programs have necessarily been undertaken at the higher price levels currently in existence, thereby creating higher fixed charges which must be recovered in gas prices.

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Man. Dir.—H. Leigh Whitelaw, 60 East 42nd St., New York 17, N. Y.

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